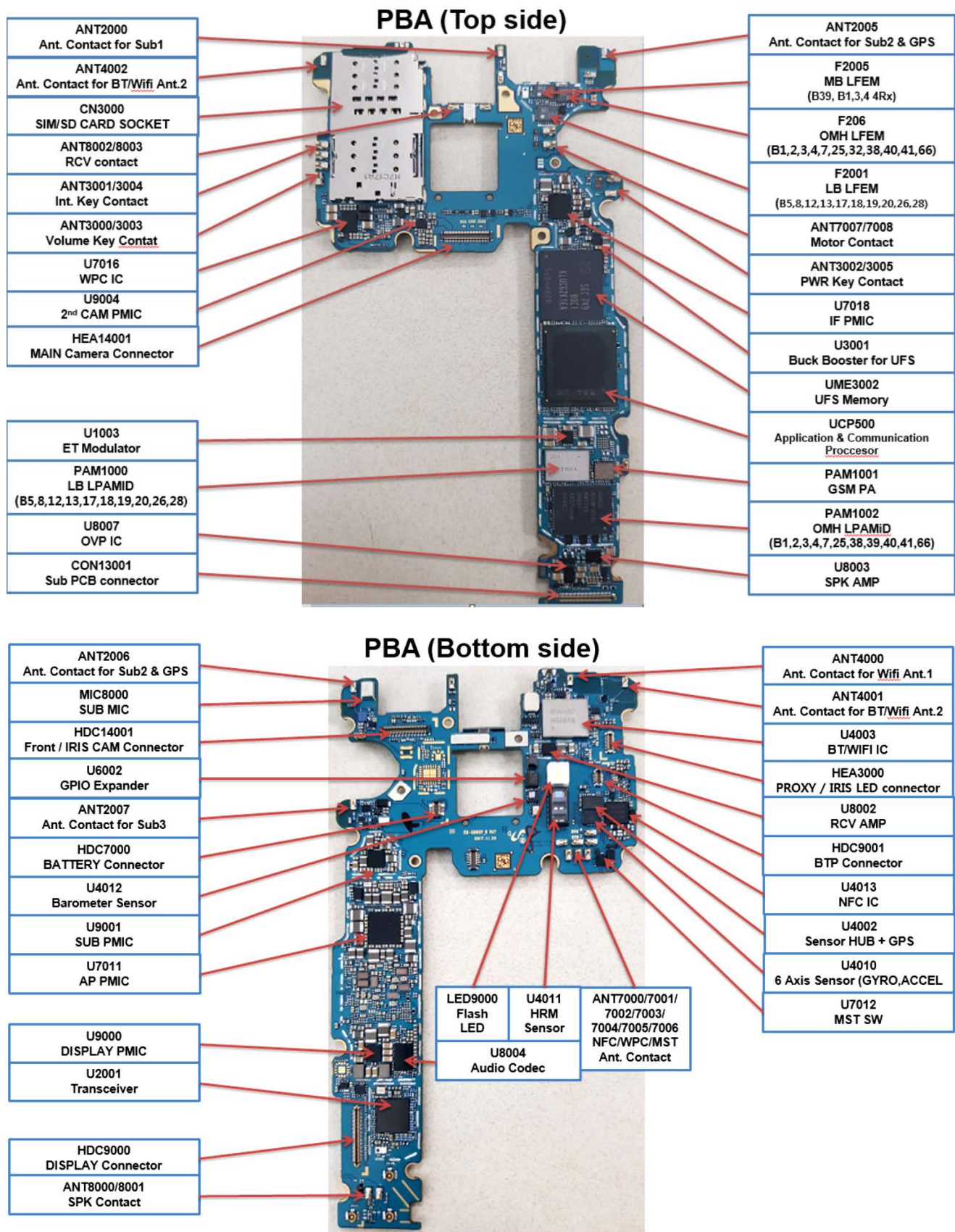


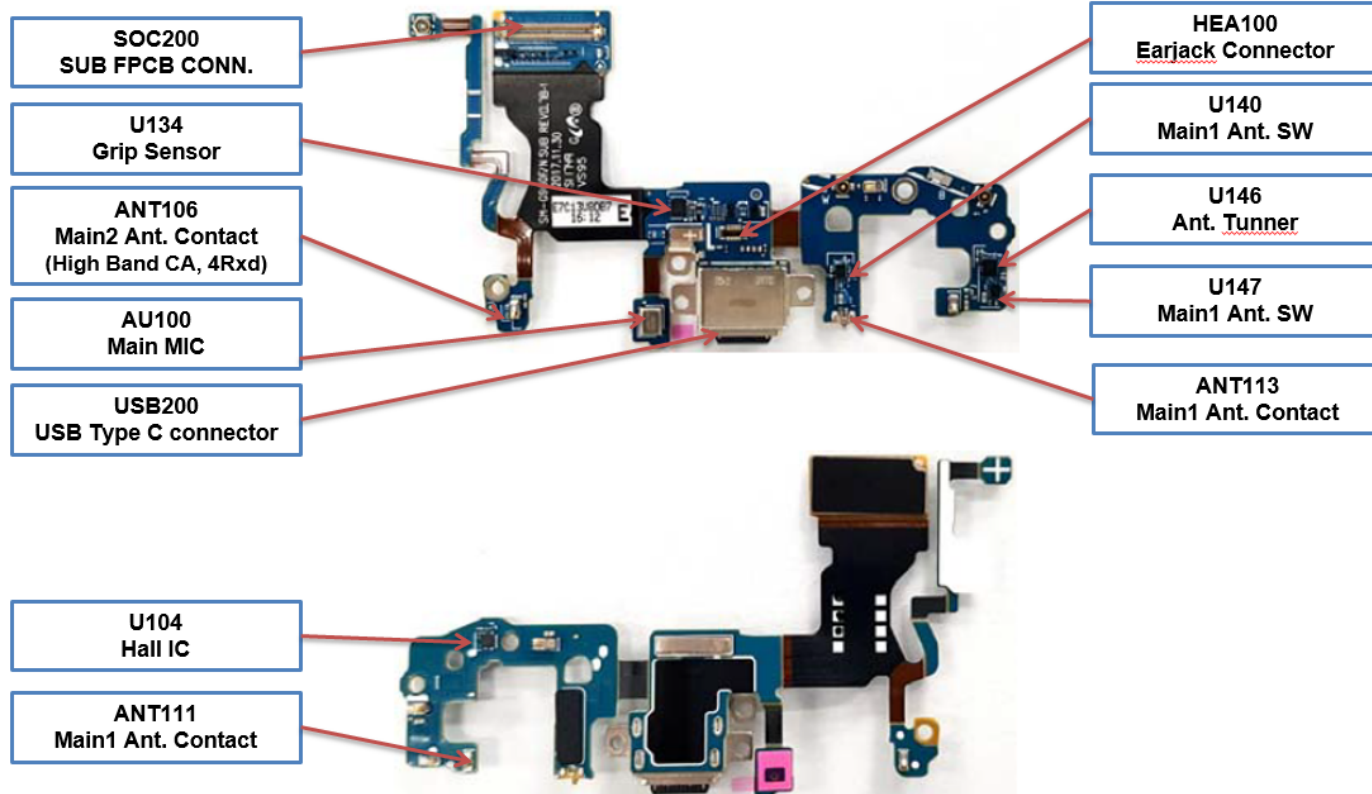
8. Level 3 Repair

8-1. Components Layout

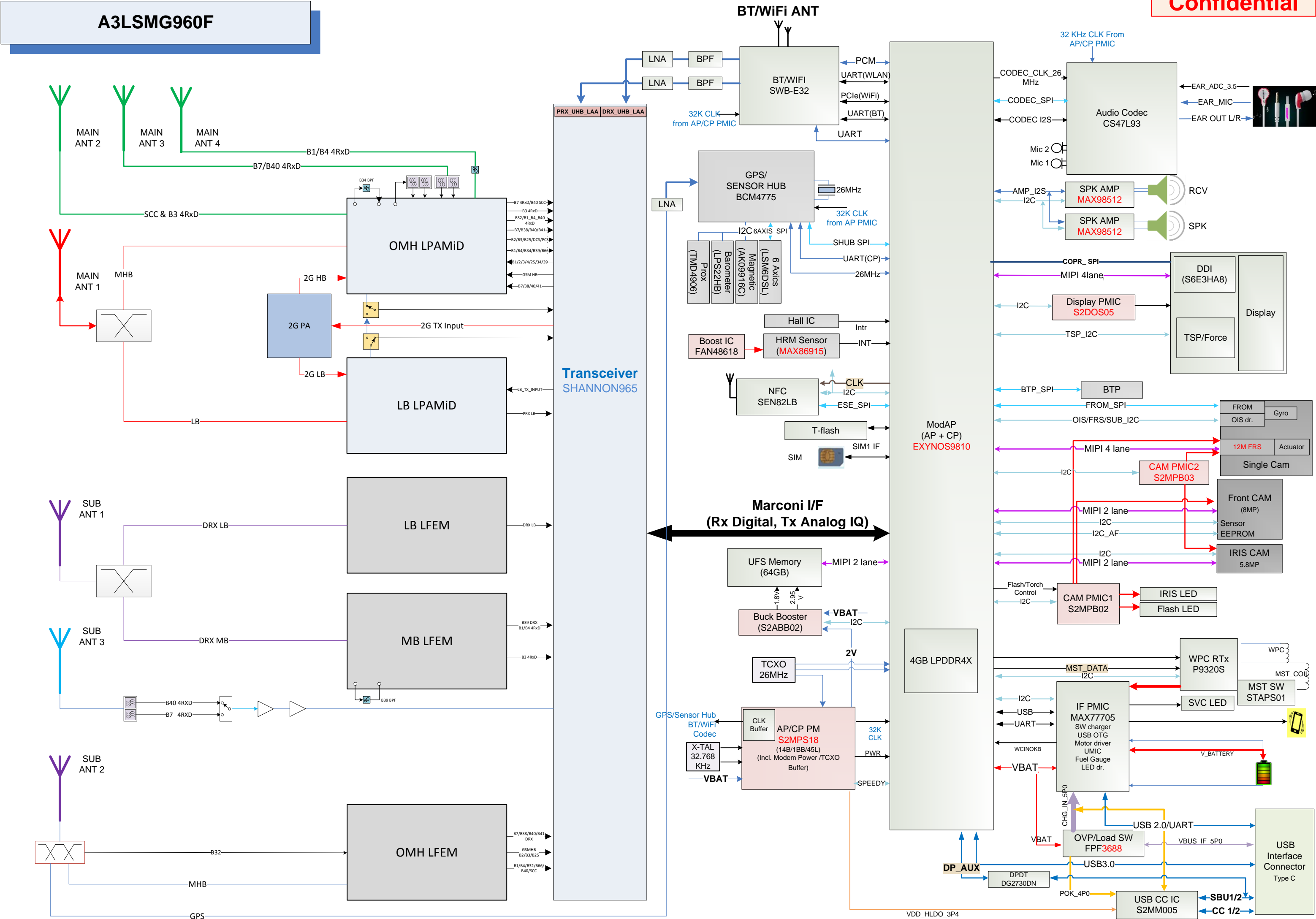


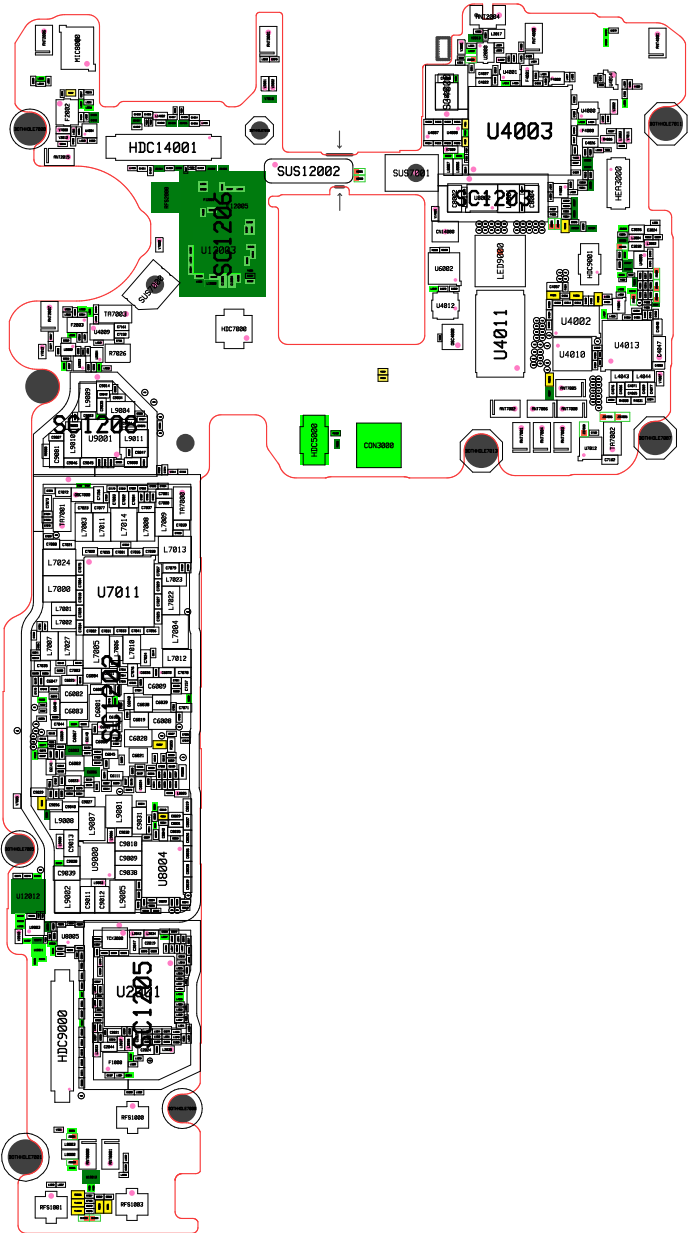
8. Level 3 Repair

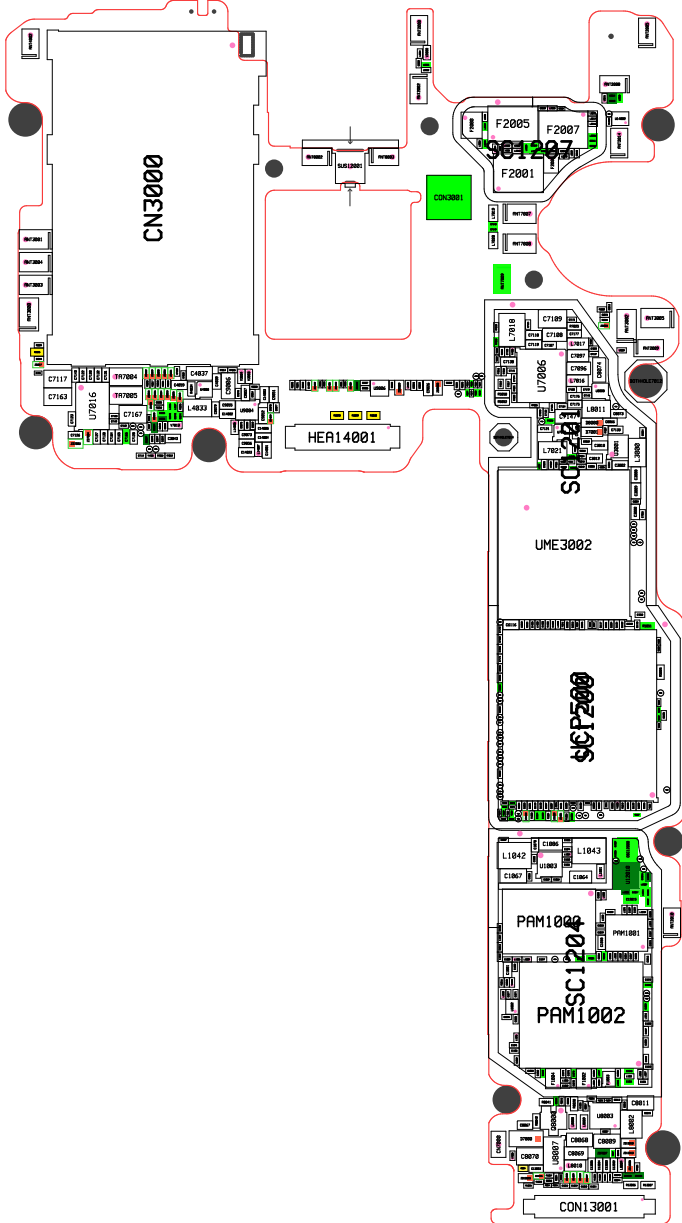
SUB PBA



A3LSMG960F

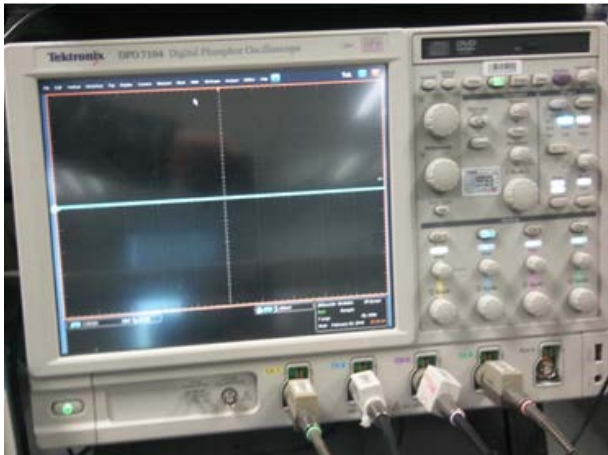






8. Level 3 Repair

8-3. Flow chart of Troubleshooting.



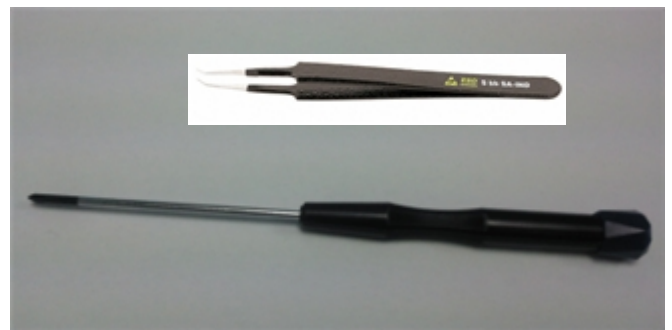
Oscilloscope



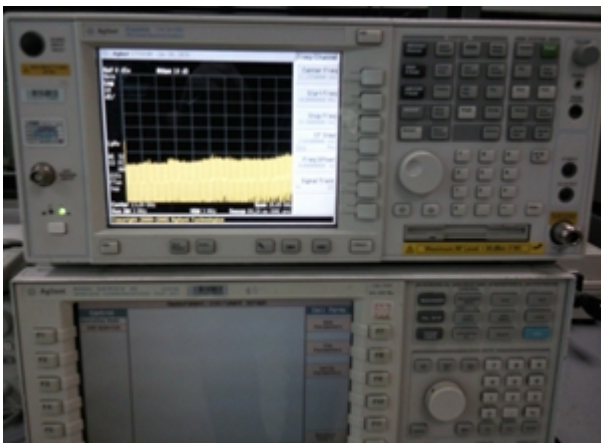
Digital Multimeter



Power Supply



+ driver, ESD Safe Tweezer



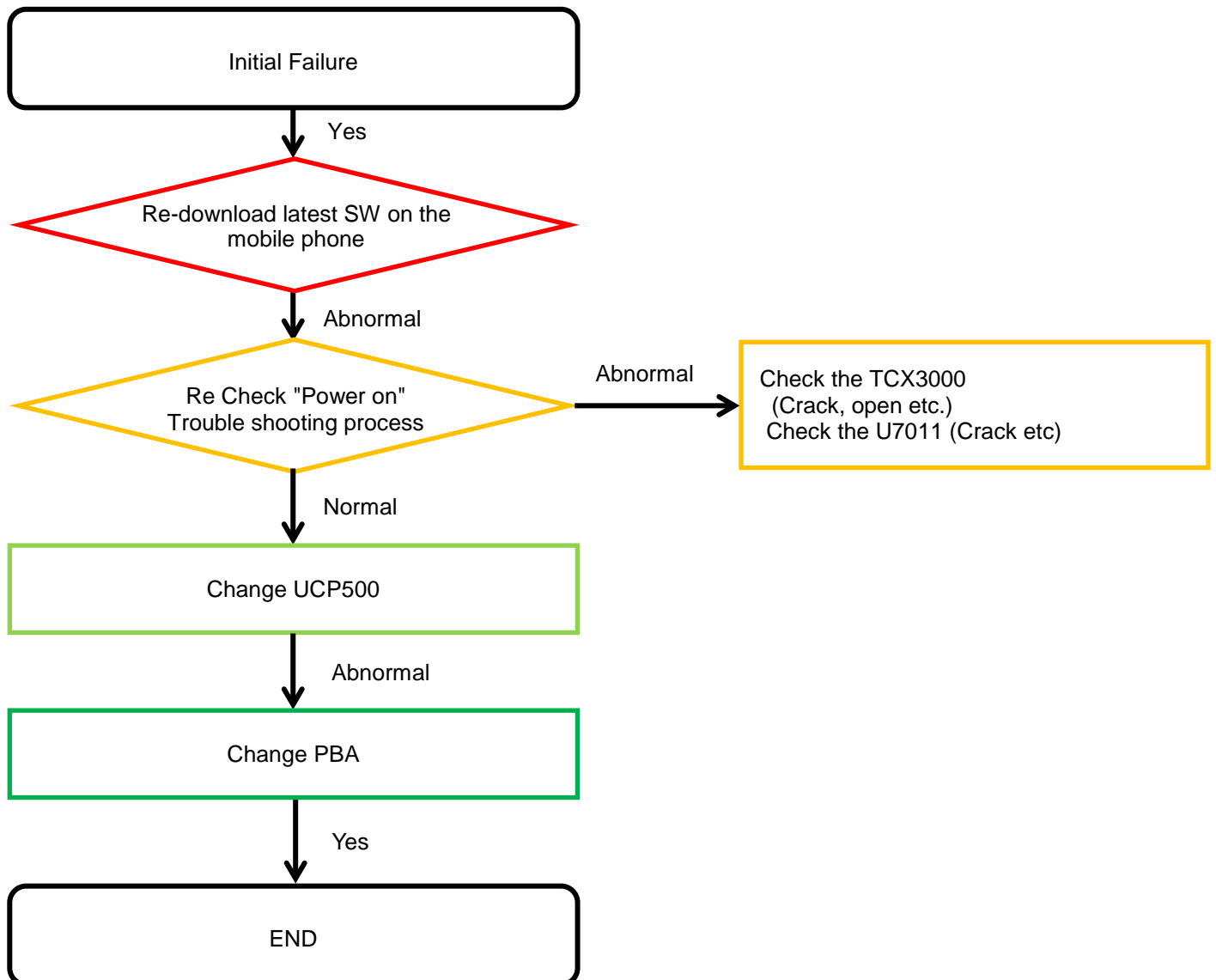
8960 & Spectrum Analyzer



Soldering iron

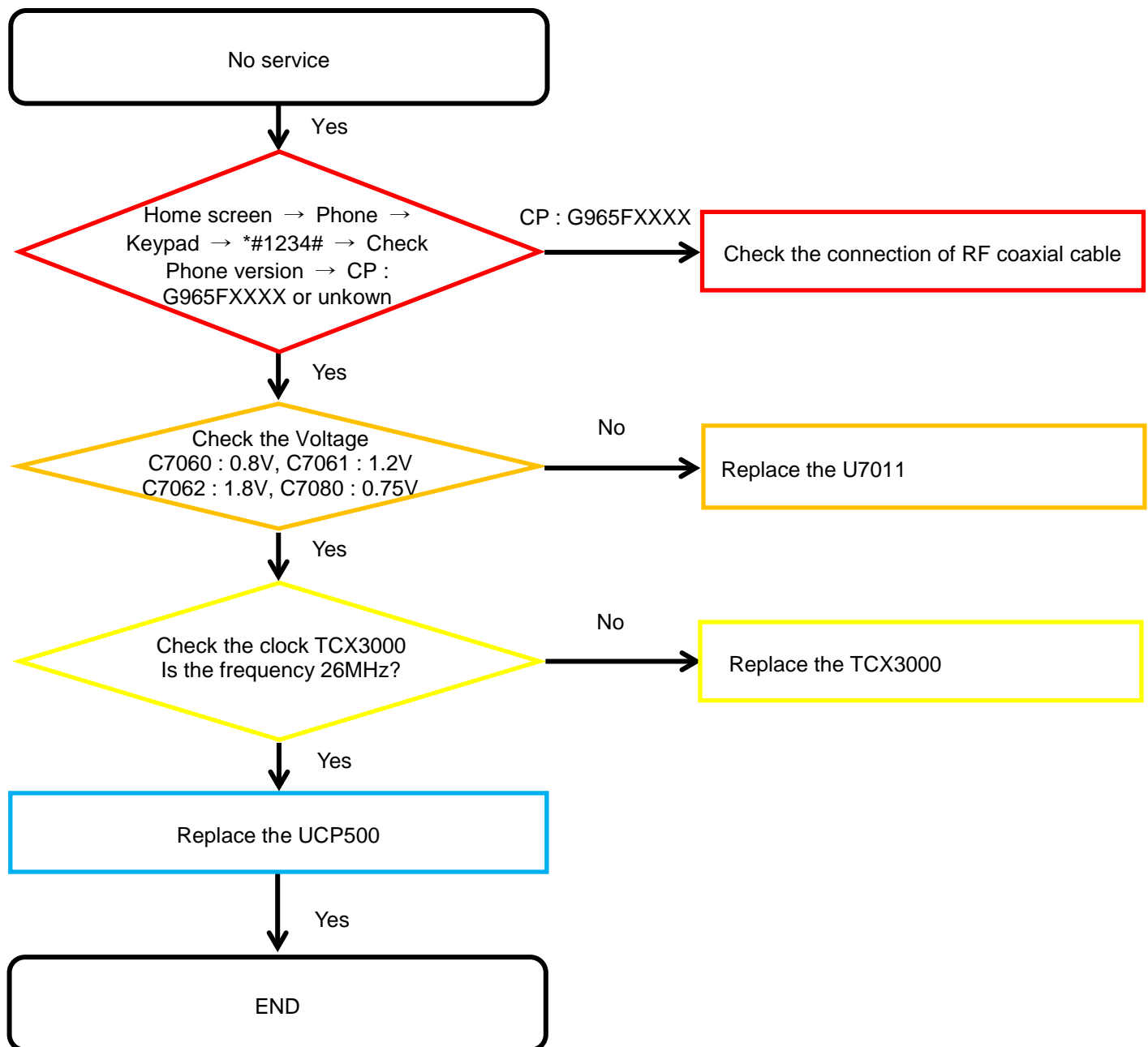
8. Level 3 Repair

8-4-2. Initial



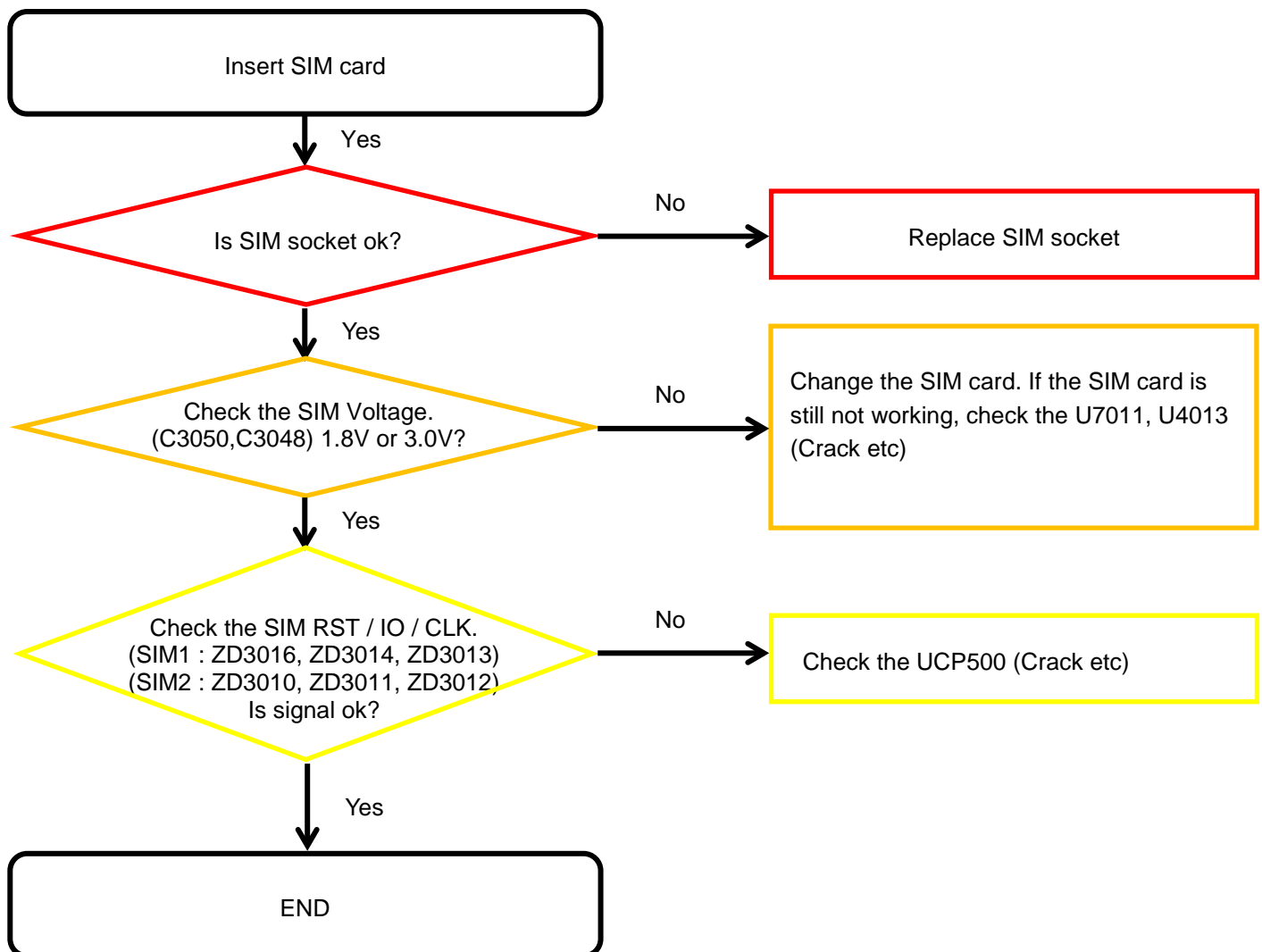
8. Level 3 Repair

8-4-3. No Service



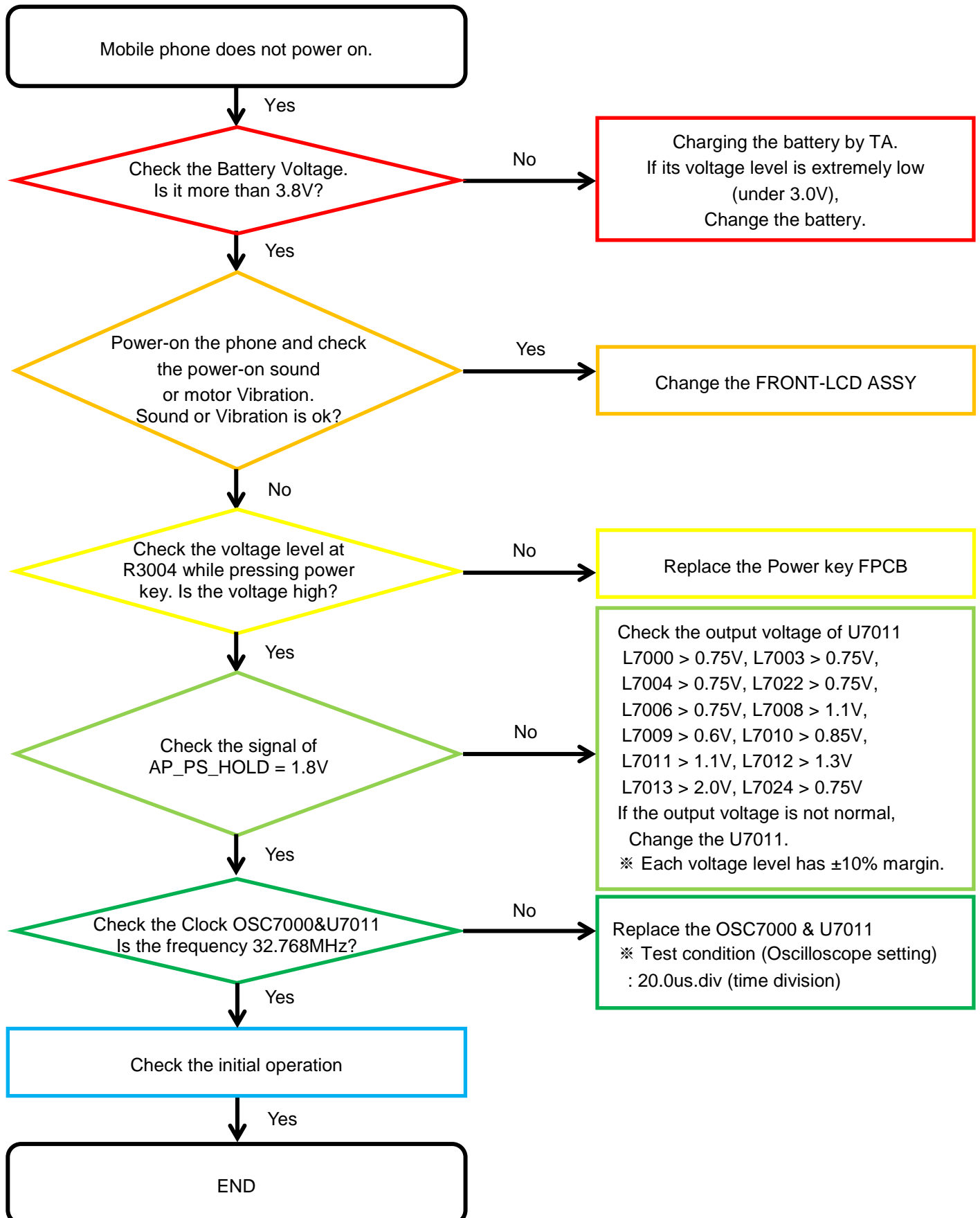
8. Level 3 Repair

8-4-4. SIM Part



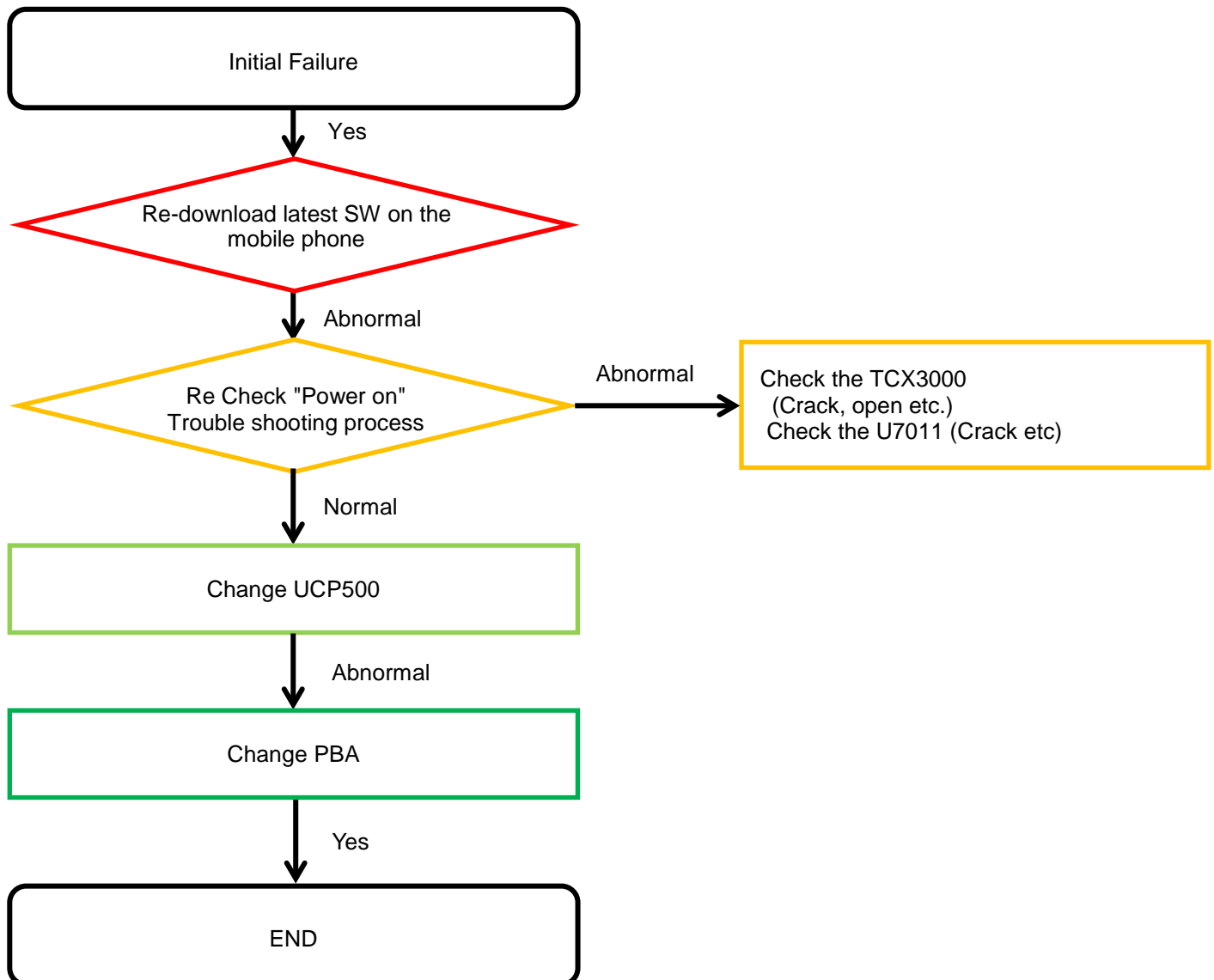
8. Level 3 Repair

8-4-1. Power On



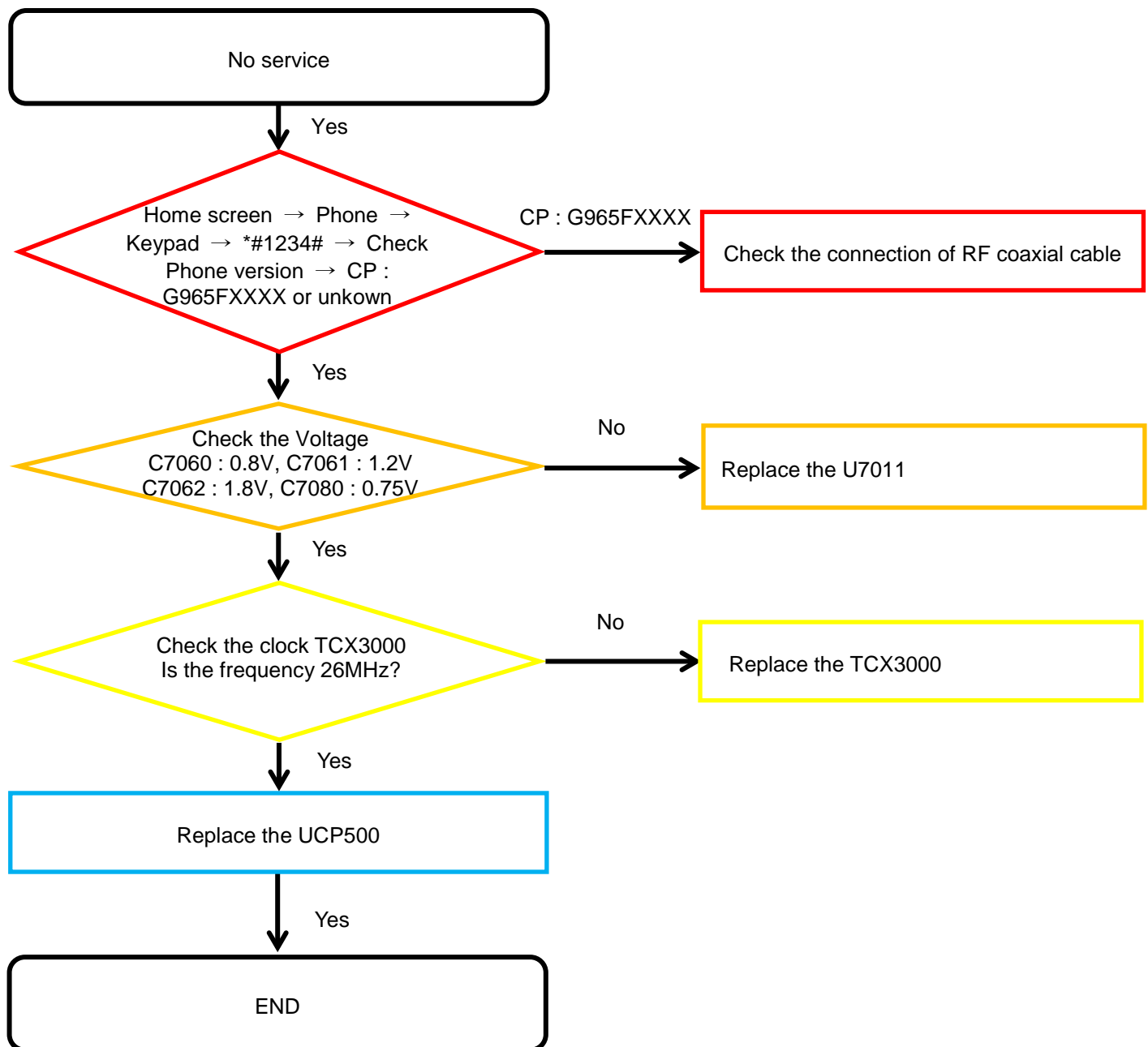
8. Level 3 Repair

8-4-2. Initial



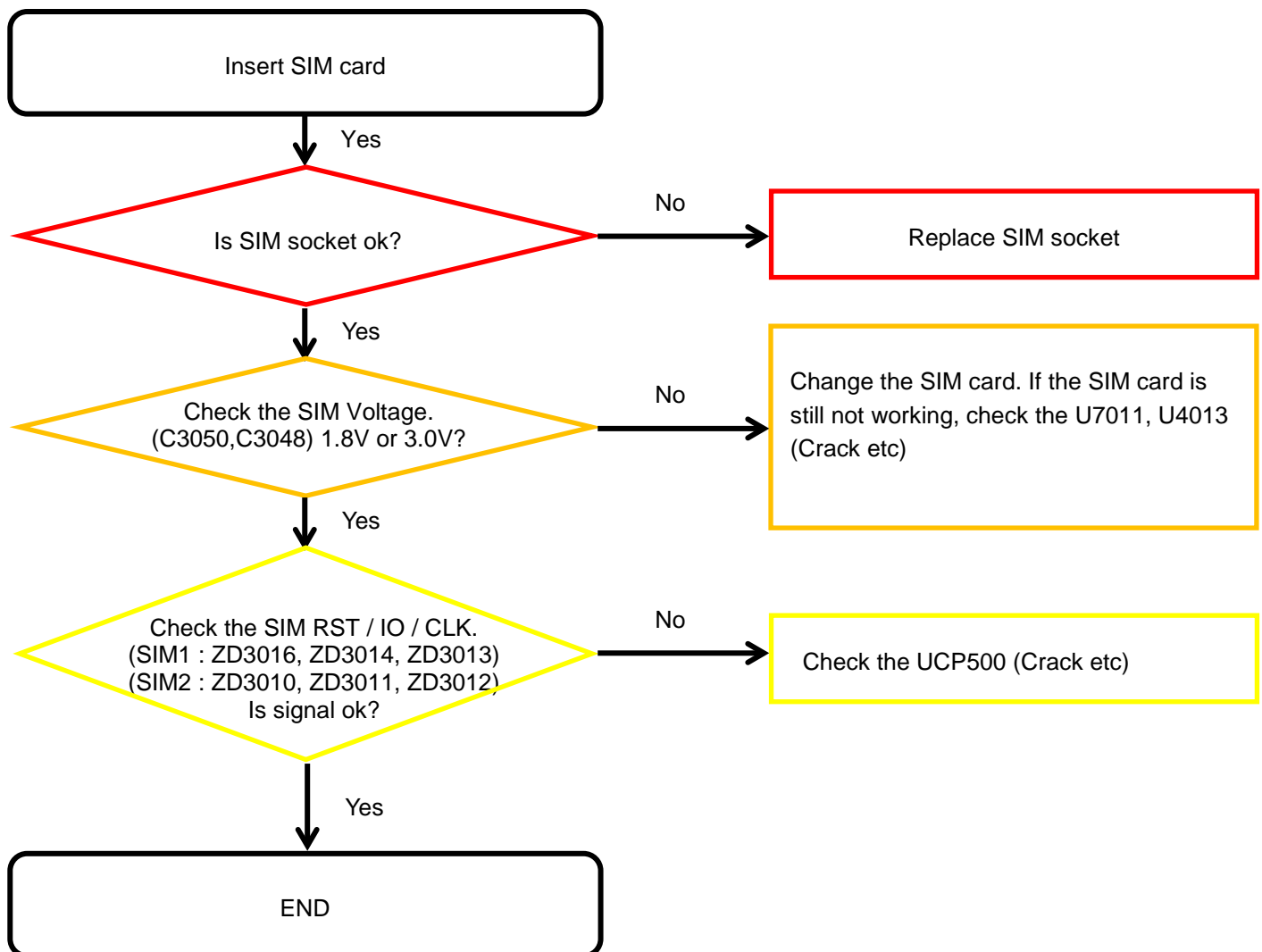
8. Level 3 Repair

8-4-3. No Service



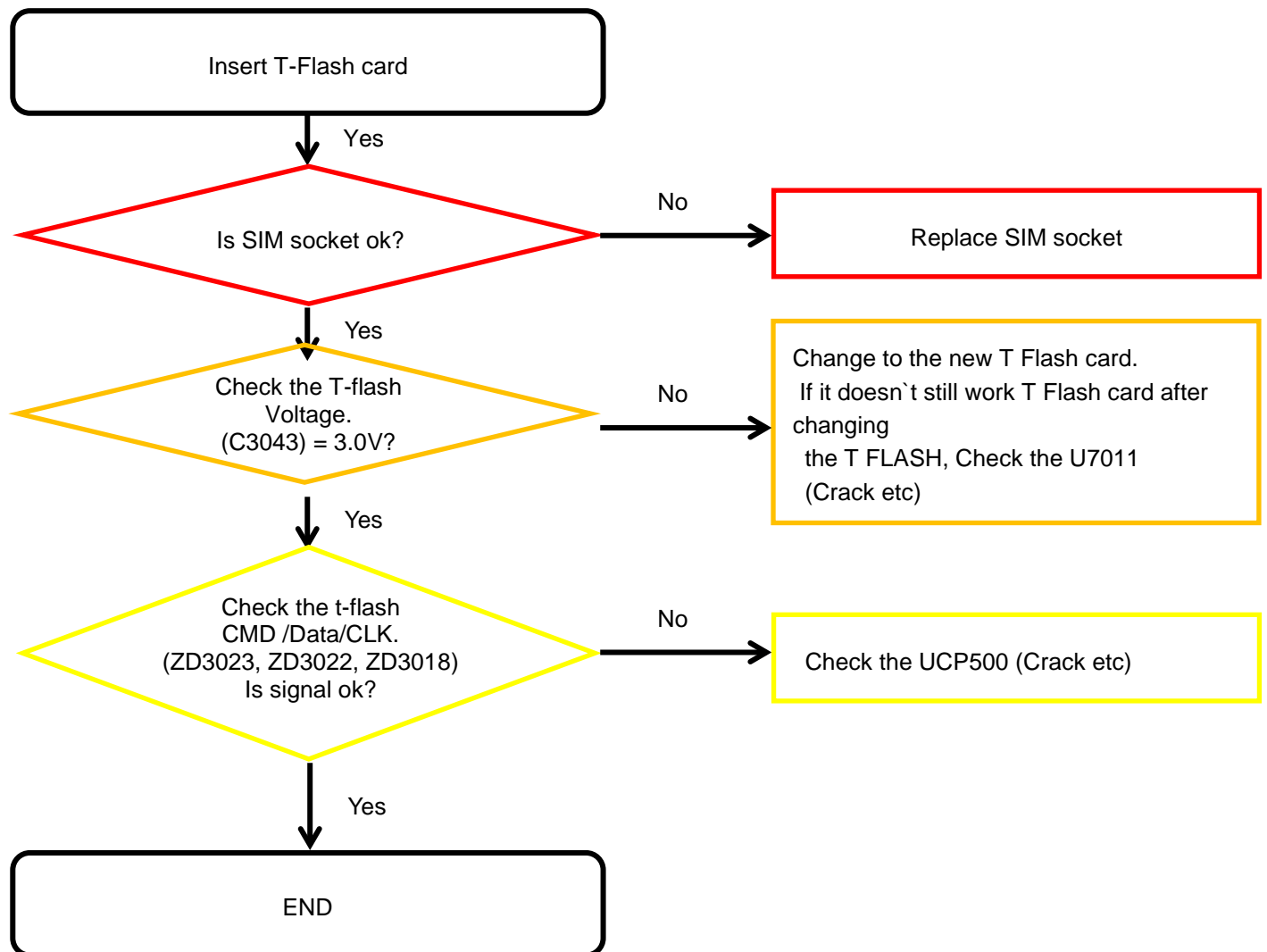
8. Level 3 Repair

8-4-4. SIM Part



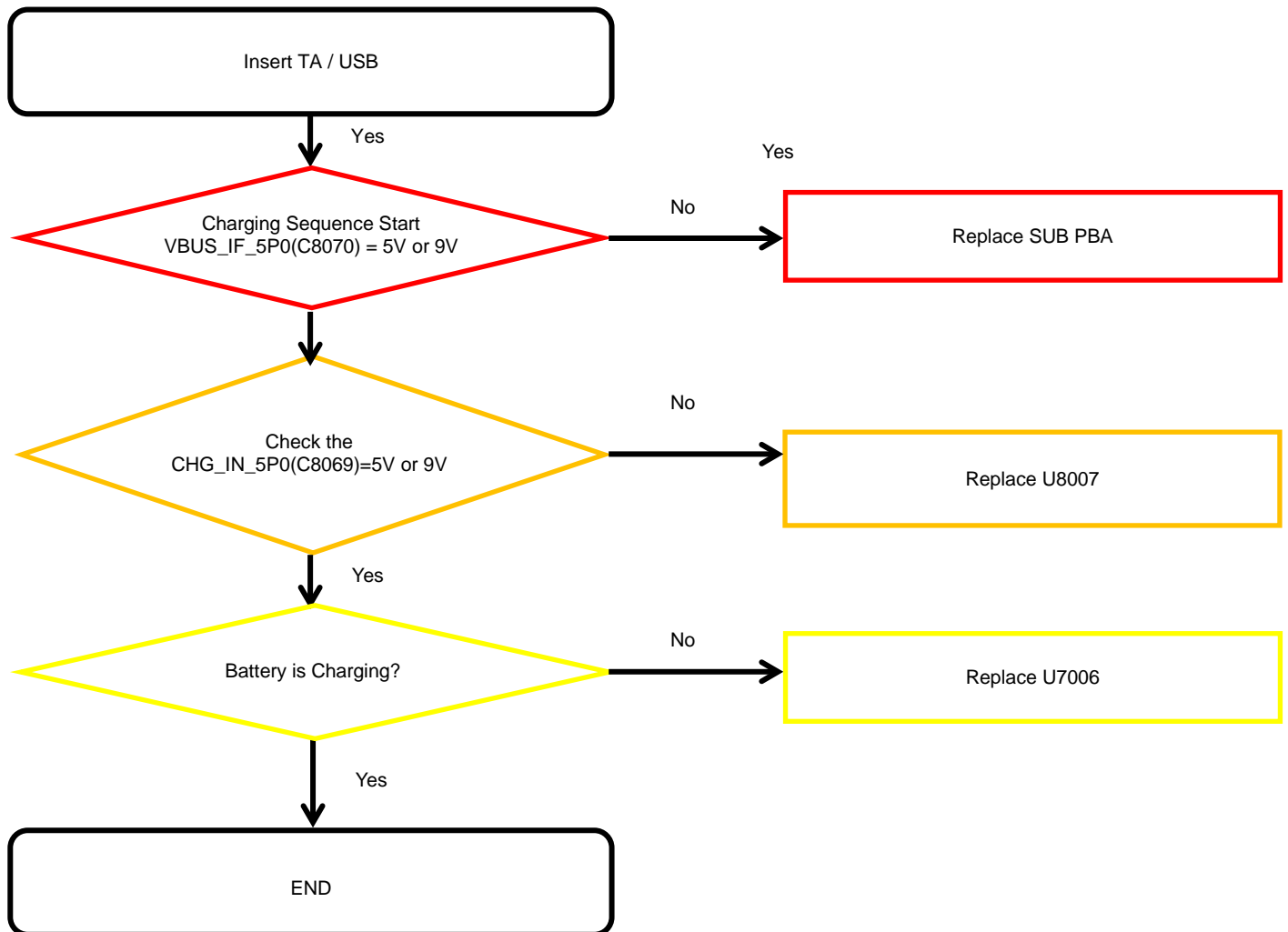
8. Level 3 Repair

8-4-5. T-Flash Part



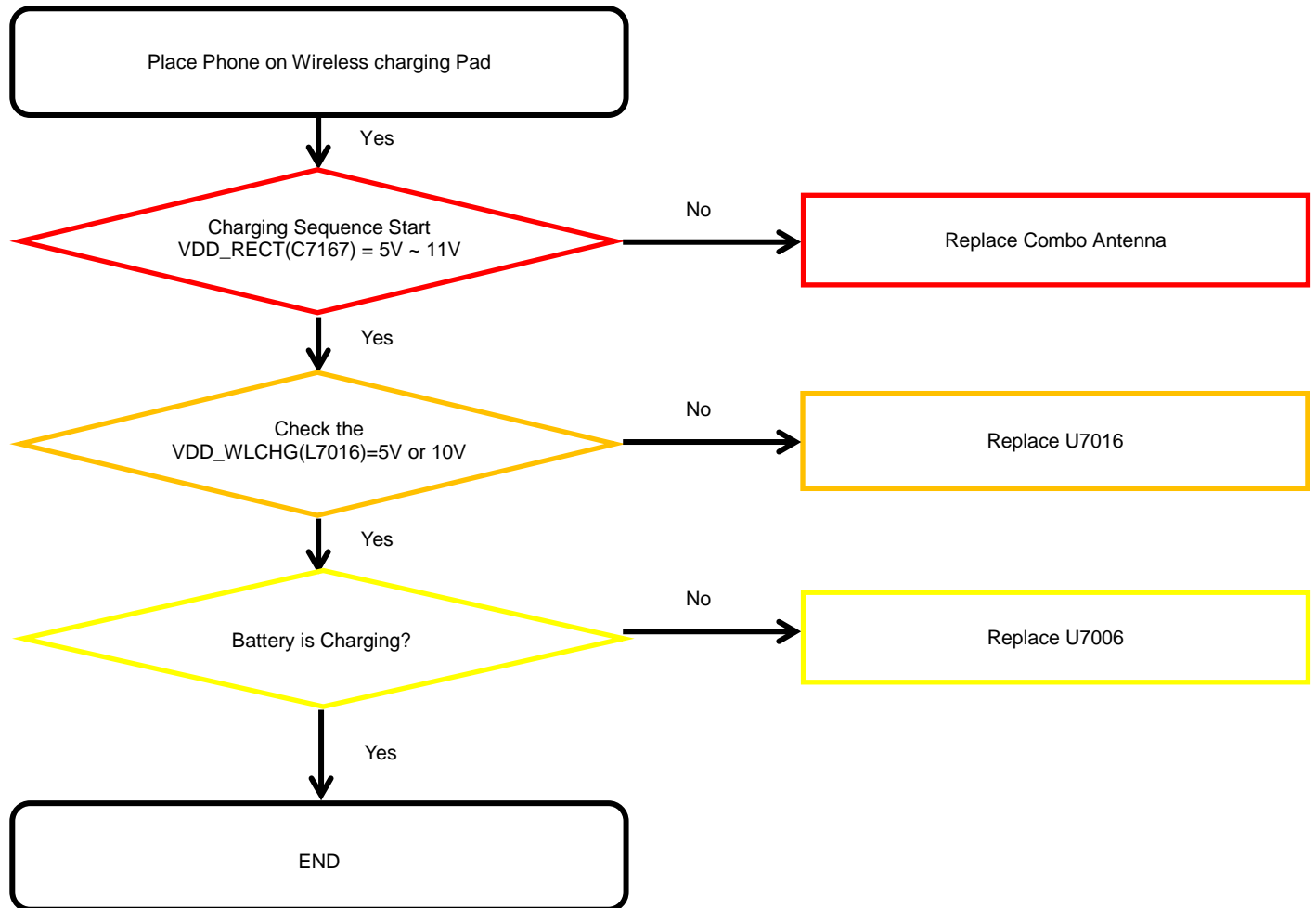
8. Level 3 Repair

8-4-6-1. Cable Charging Part (Normal/Fast)



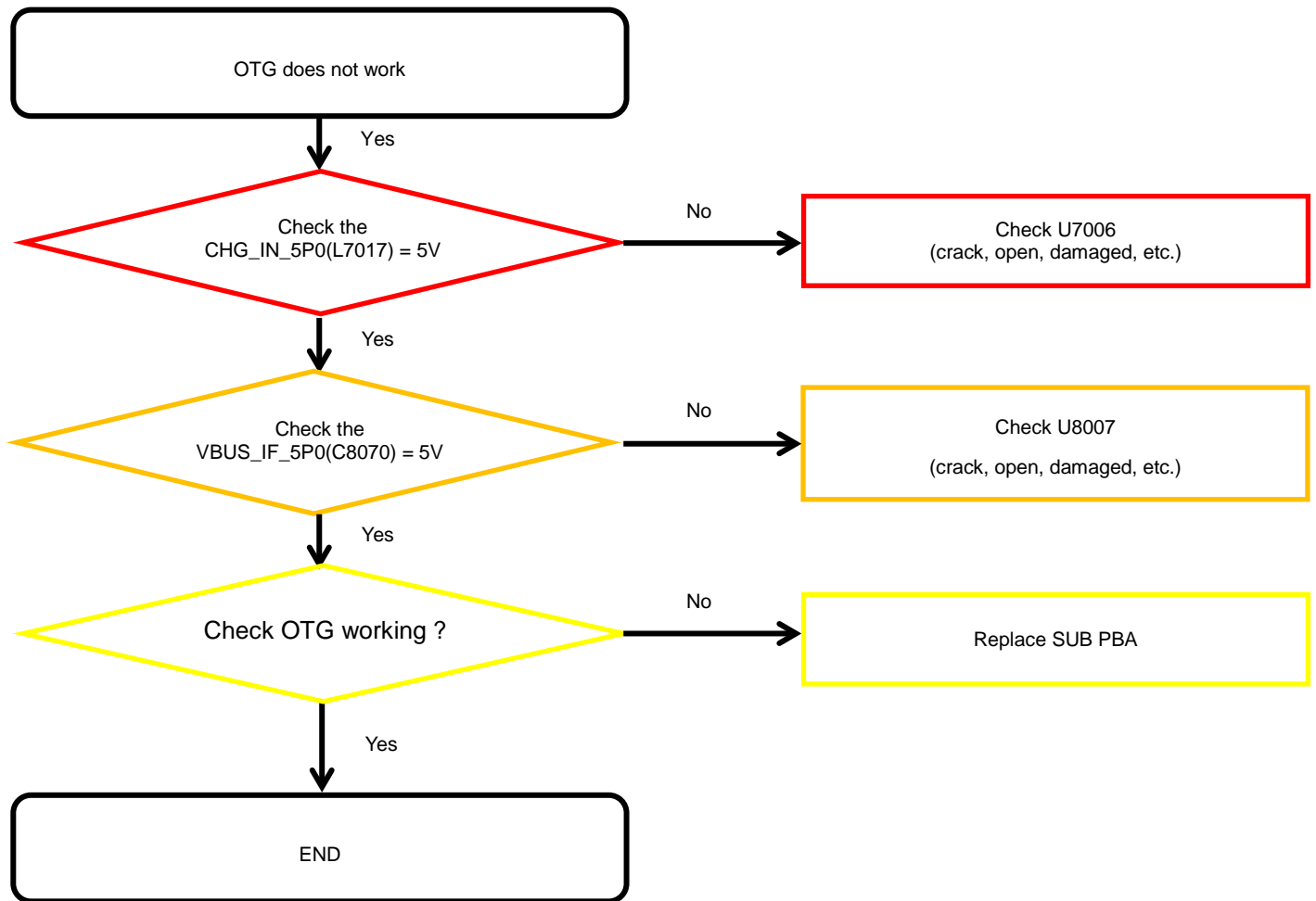
8. Level 3 Repair

8-4-6-2. Wireless Charging Part (Normal/Fast)



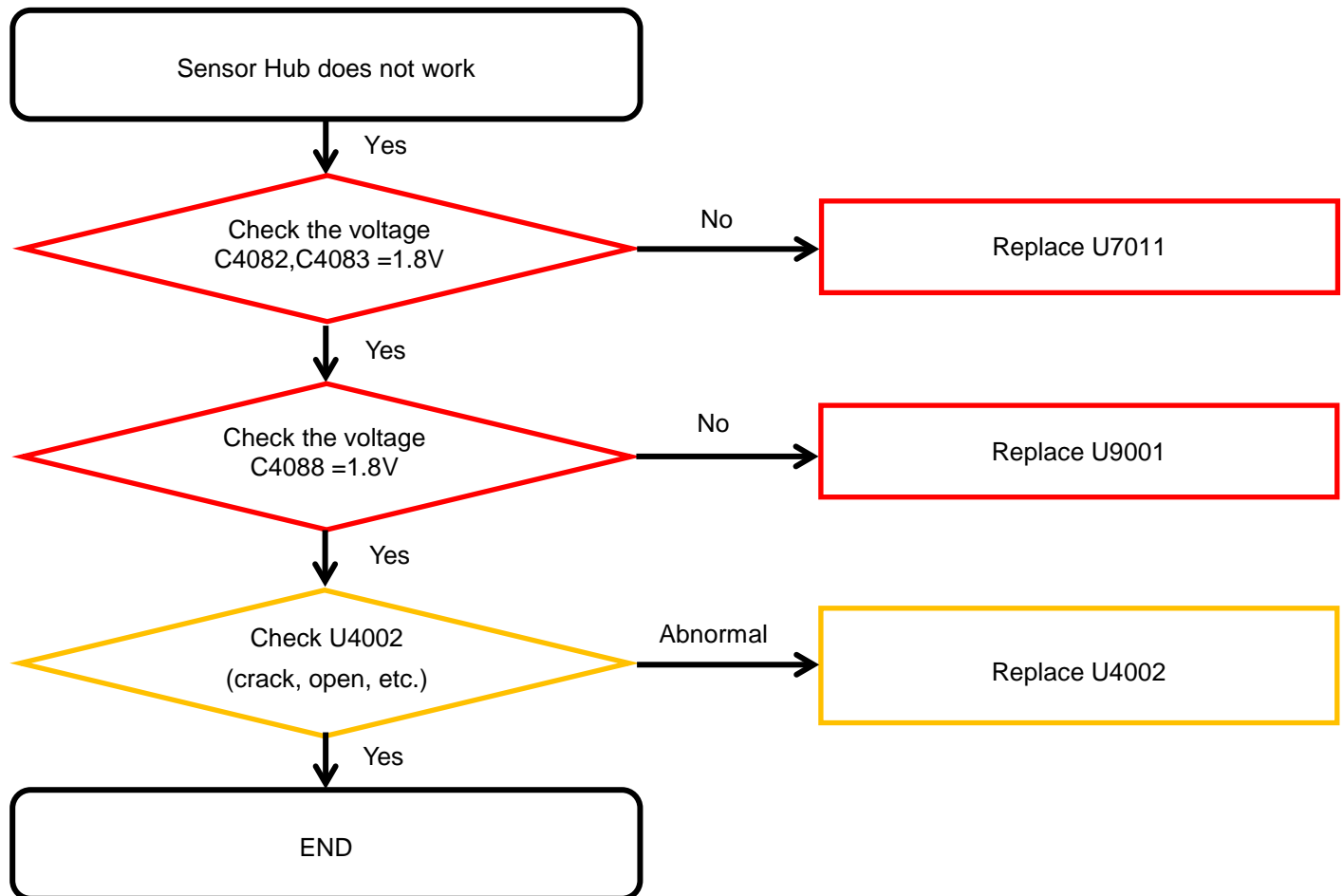
8. Level 3 Repair

8-4-7. OTG



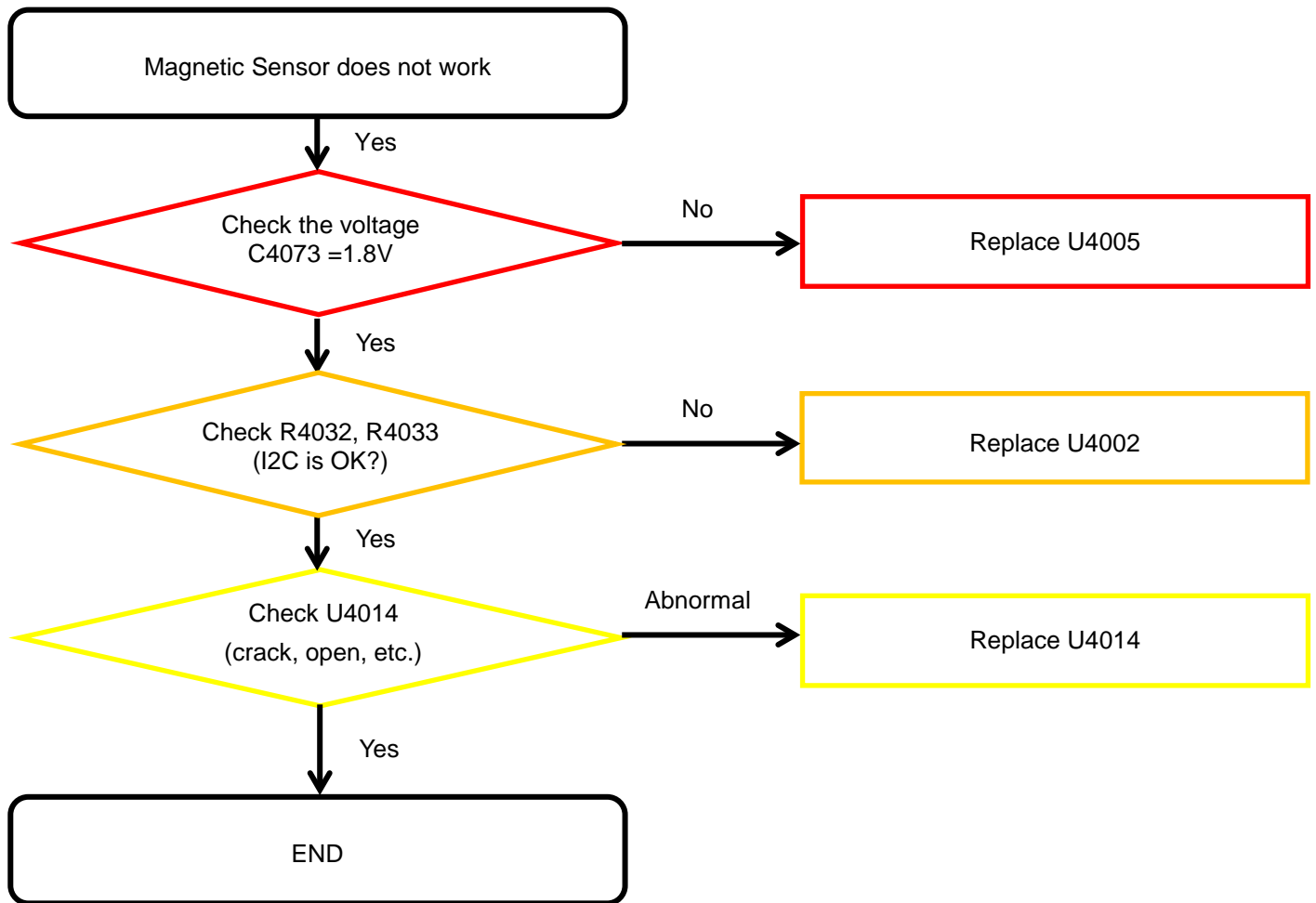
8. Level 3 Repair

8-4-8-1. Sensor Hub



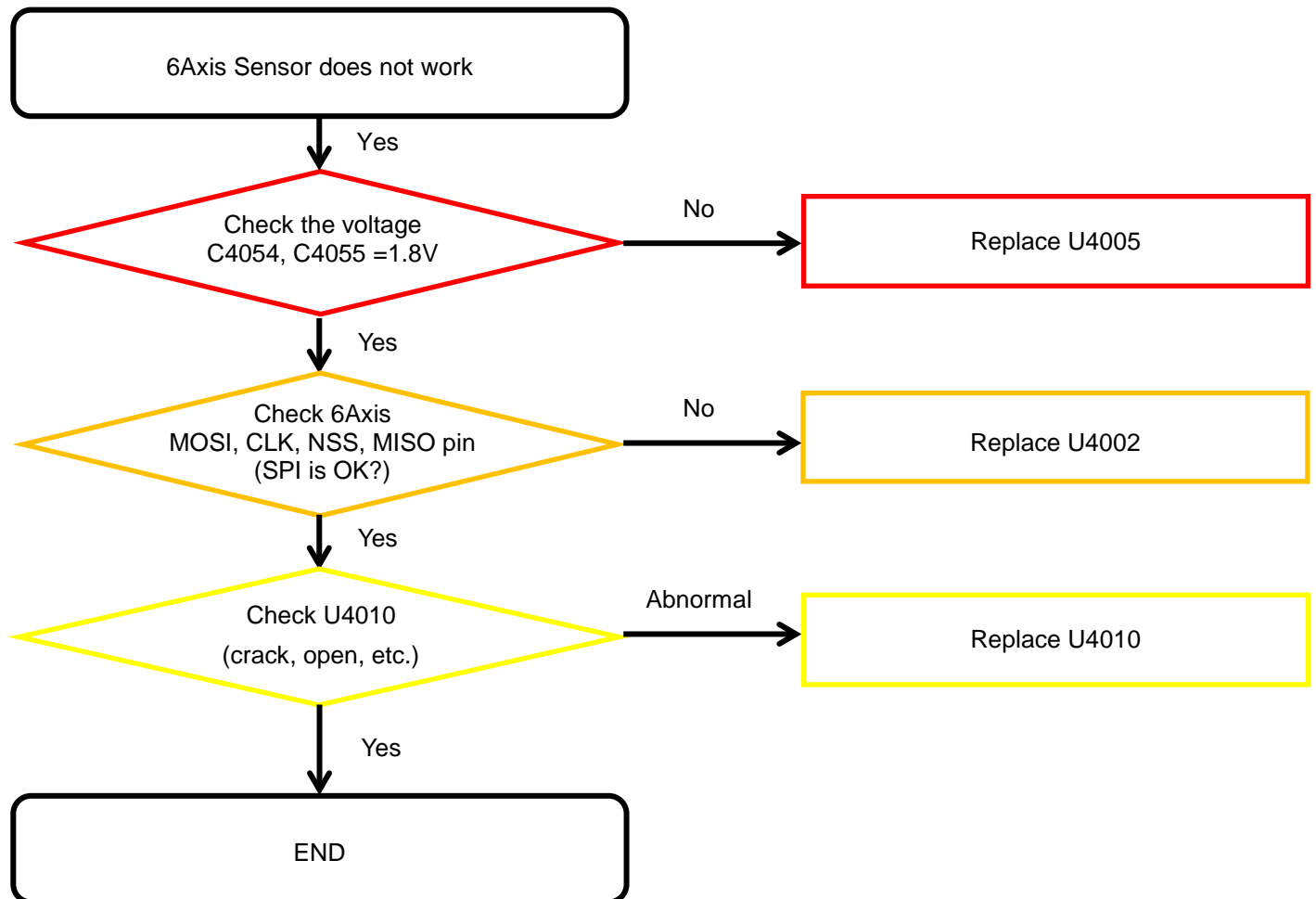
8. Level 3 Repair

8-4-8-2. Magnetic Sensor



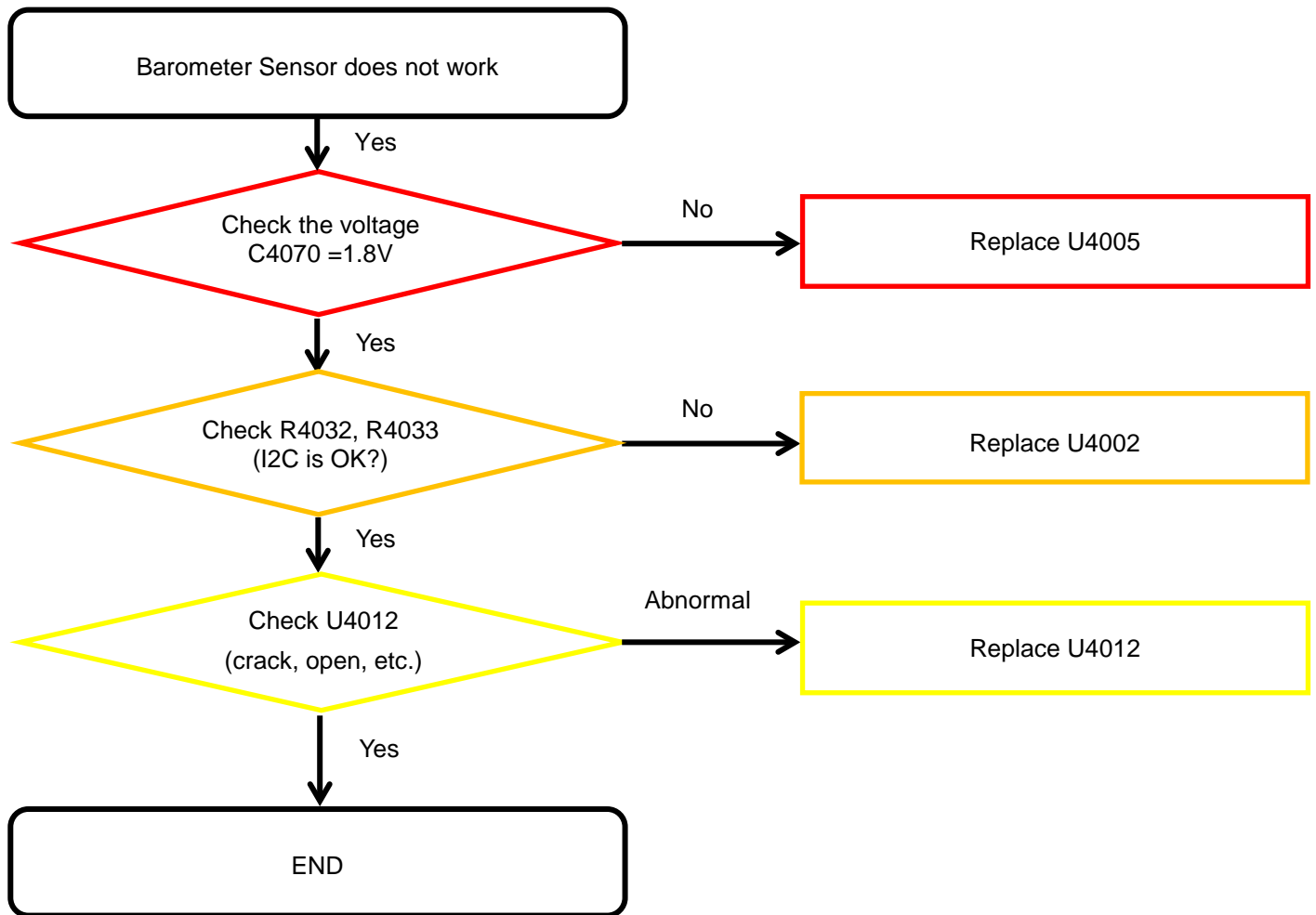
8. Level 3 Repair

8-4-8-3. 6Axis Sensor



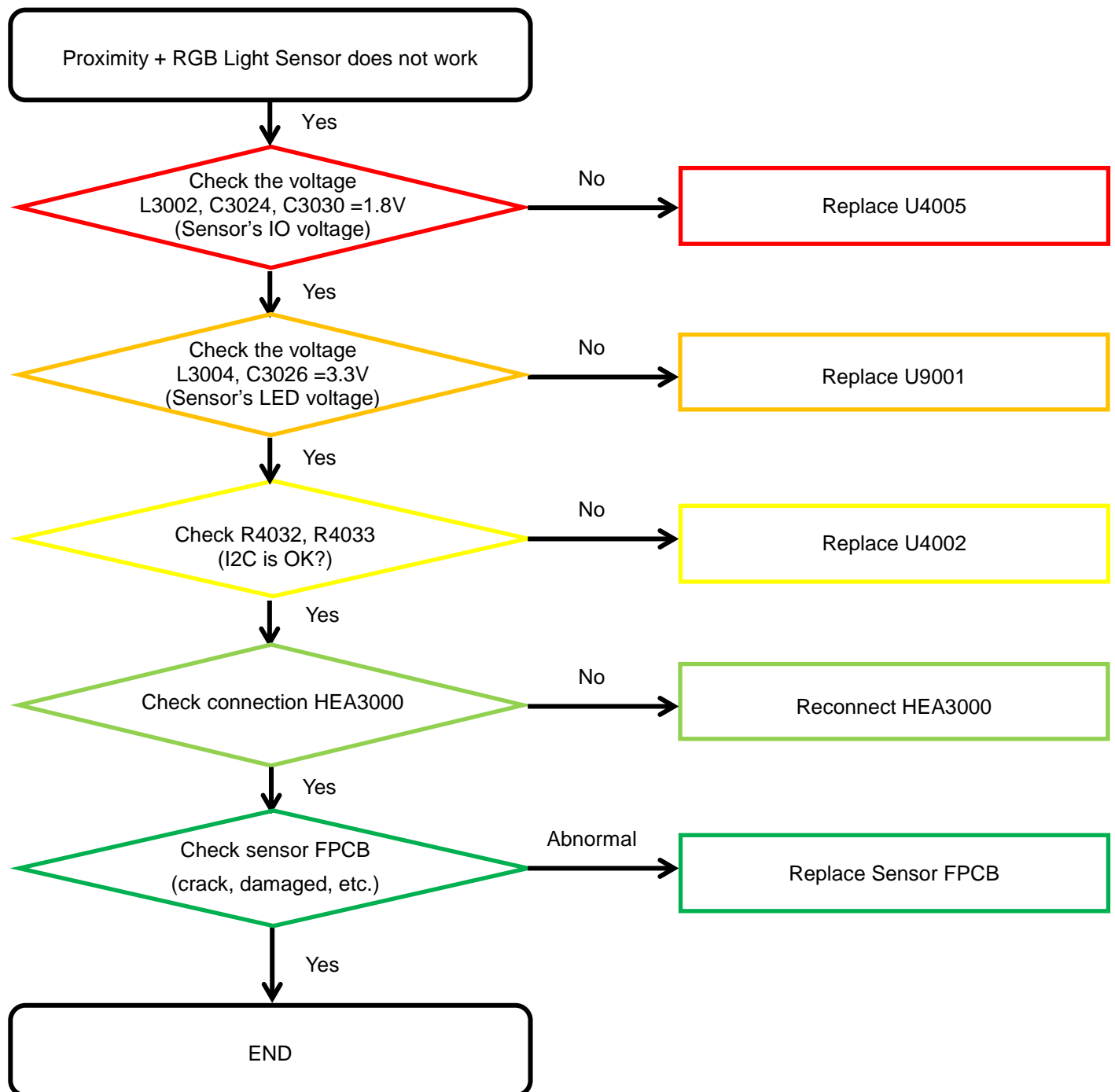
8. Level 3 Repair

8-4-8-4. Barometer sensor



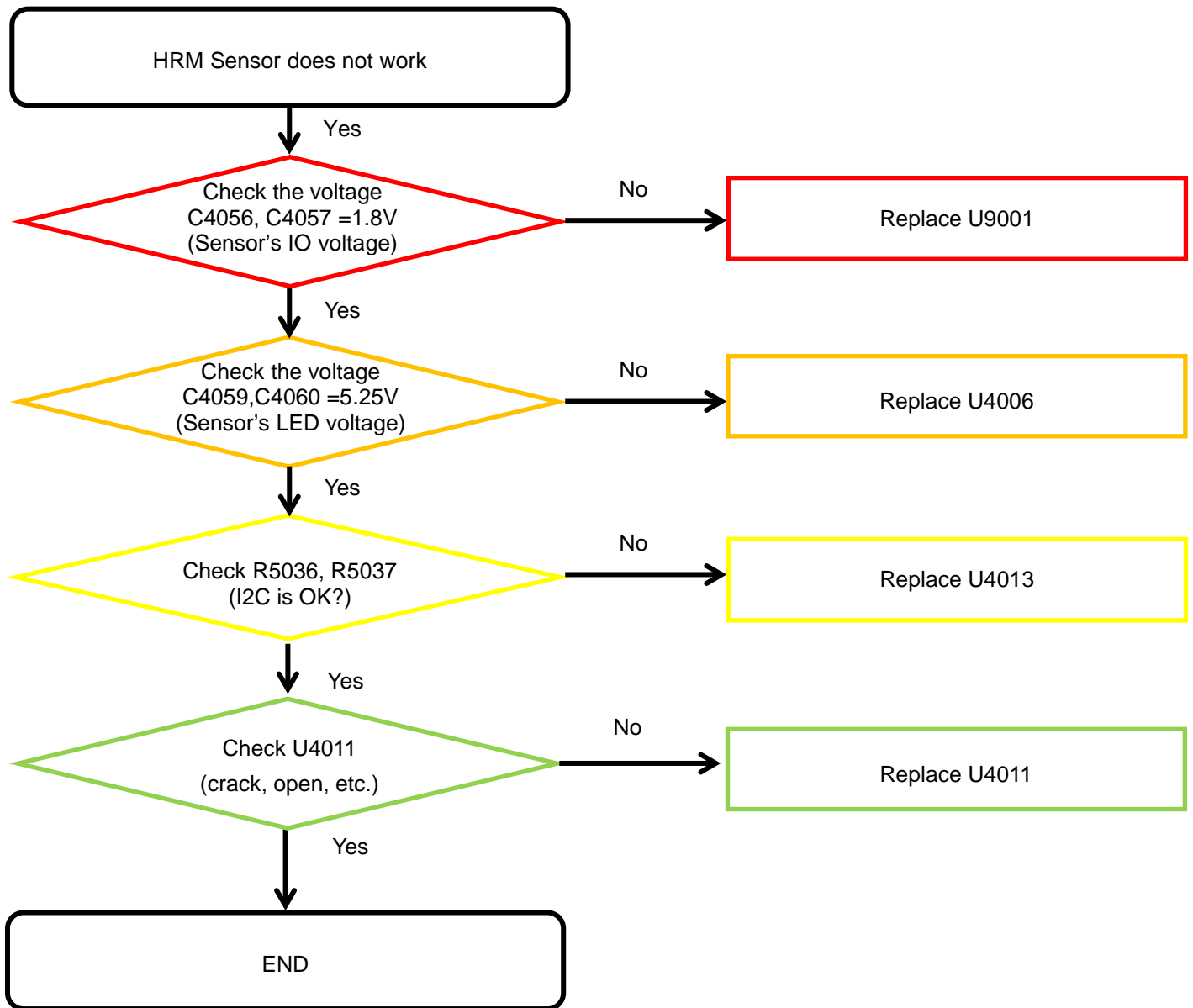
8. Level 3 Repair

8-4-8-5. Proximity + RGB Light sensor



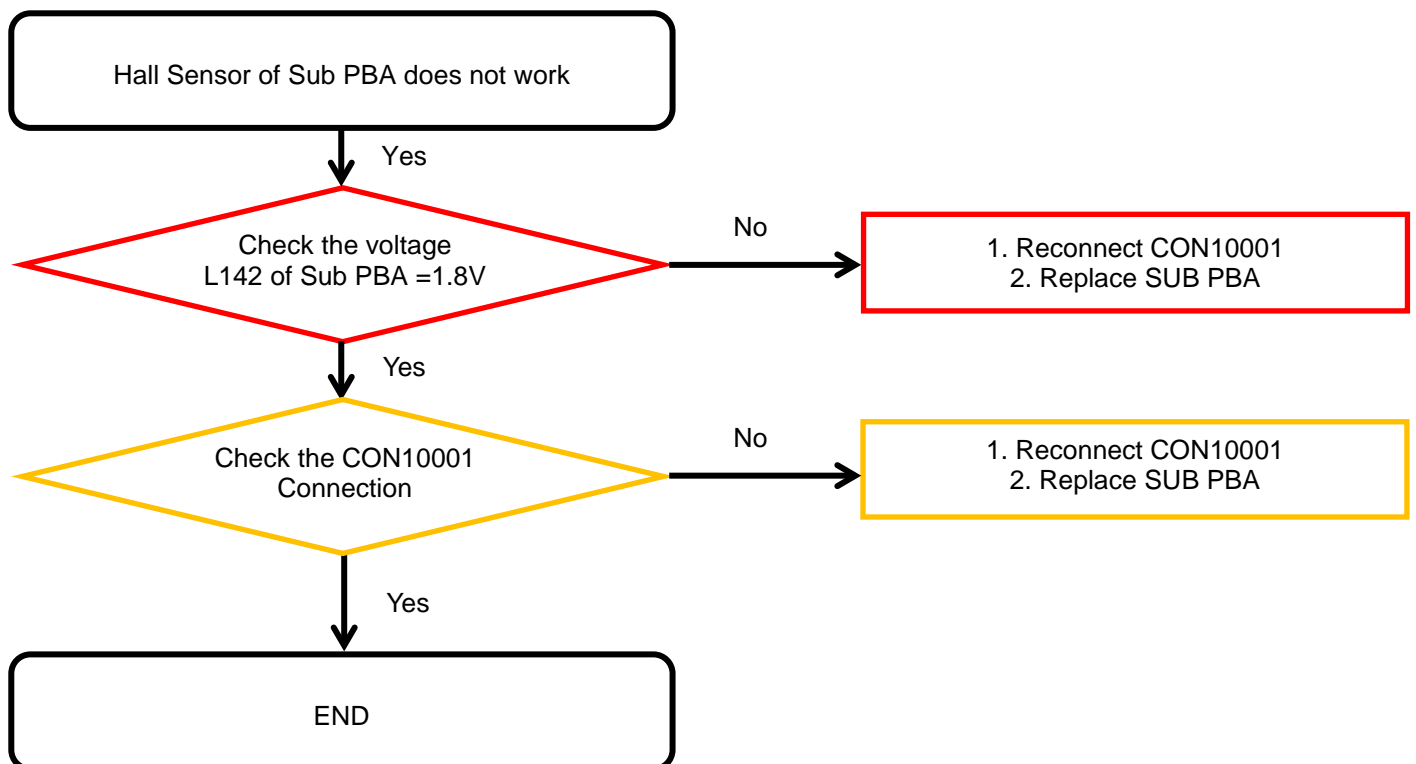
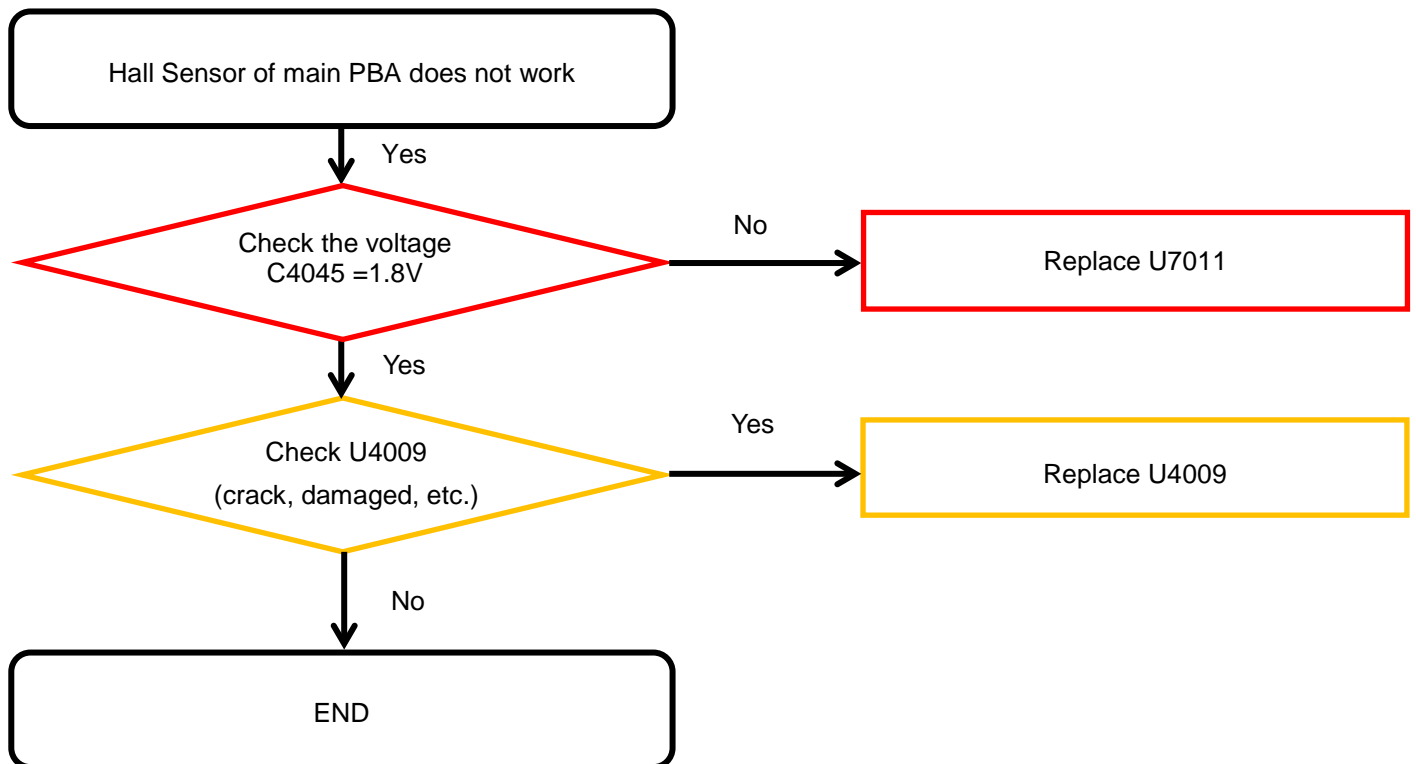
8. Level 3 Repair

8-4-8-6. HRM Sensor



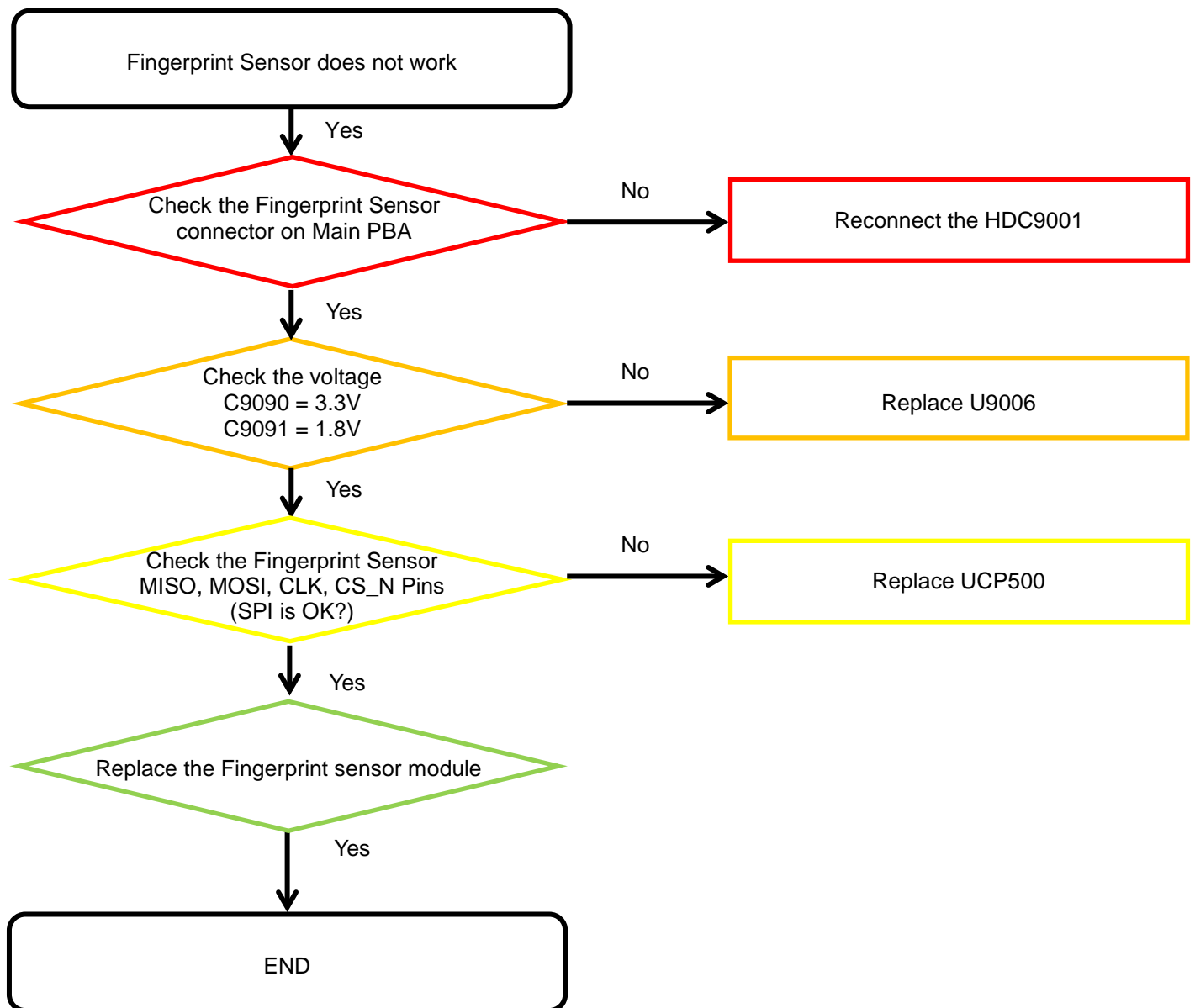
8. Level 3 Repair

8-4-8-7. Hall Sensor



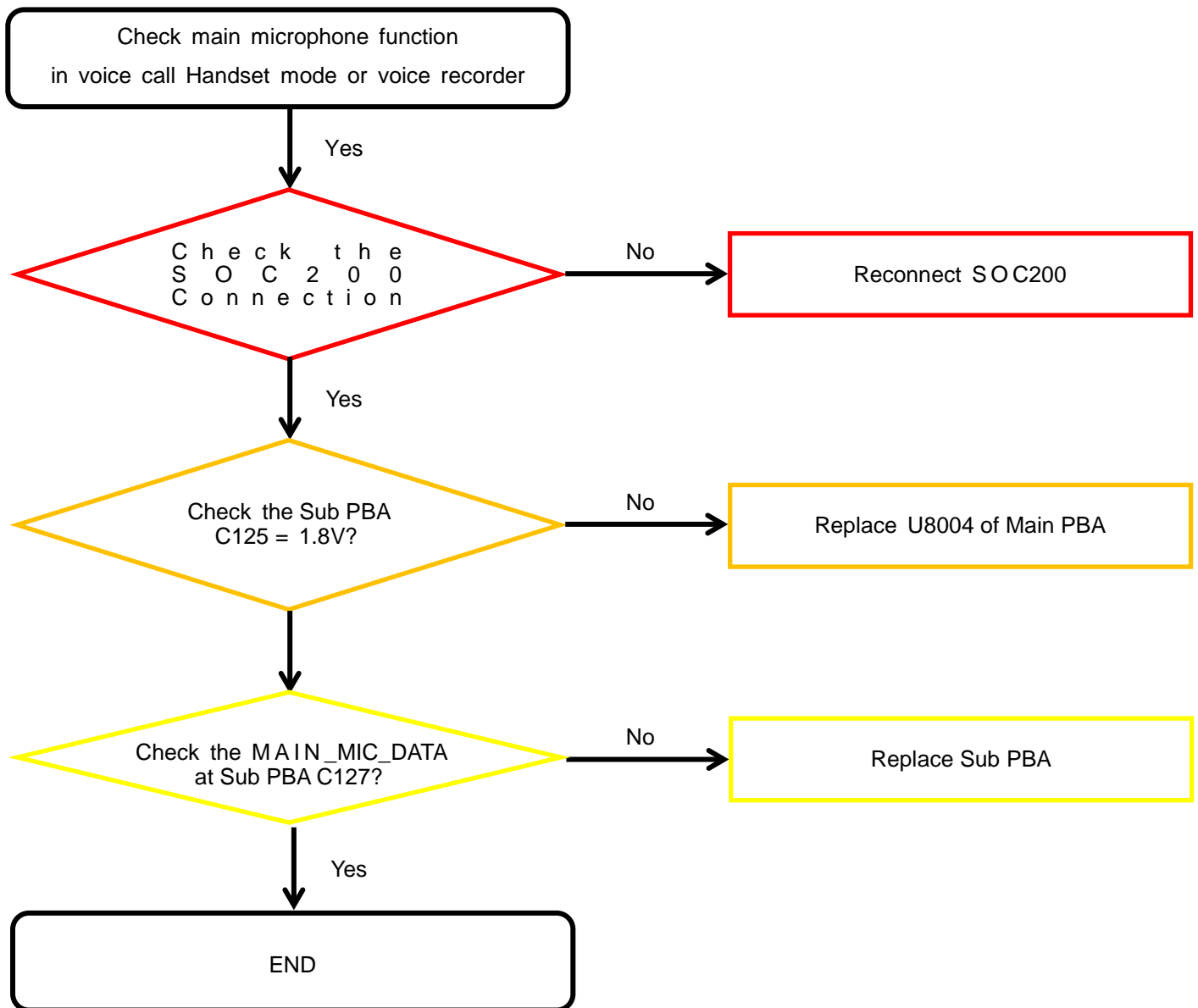
8. Level 3 Repair

8-4-8-8. Fingerprint Sensor



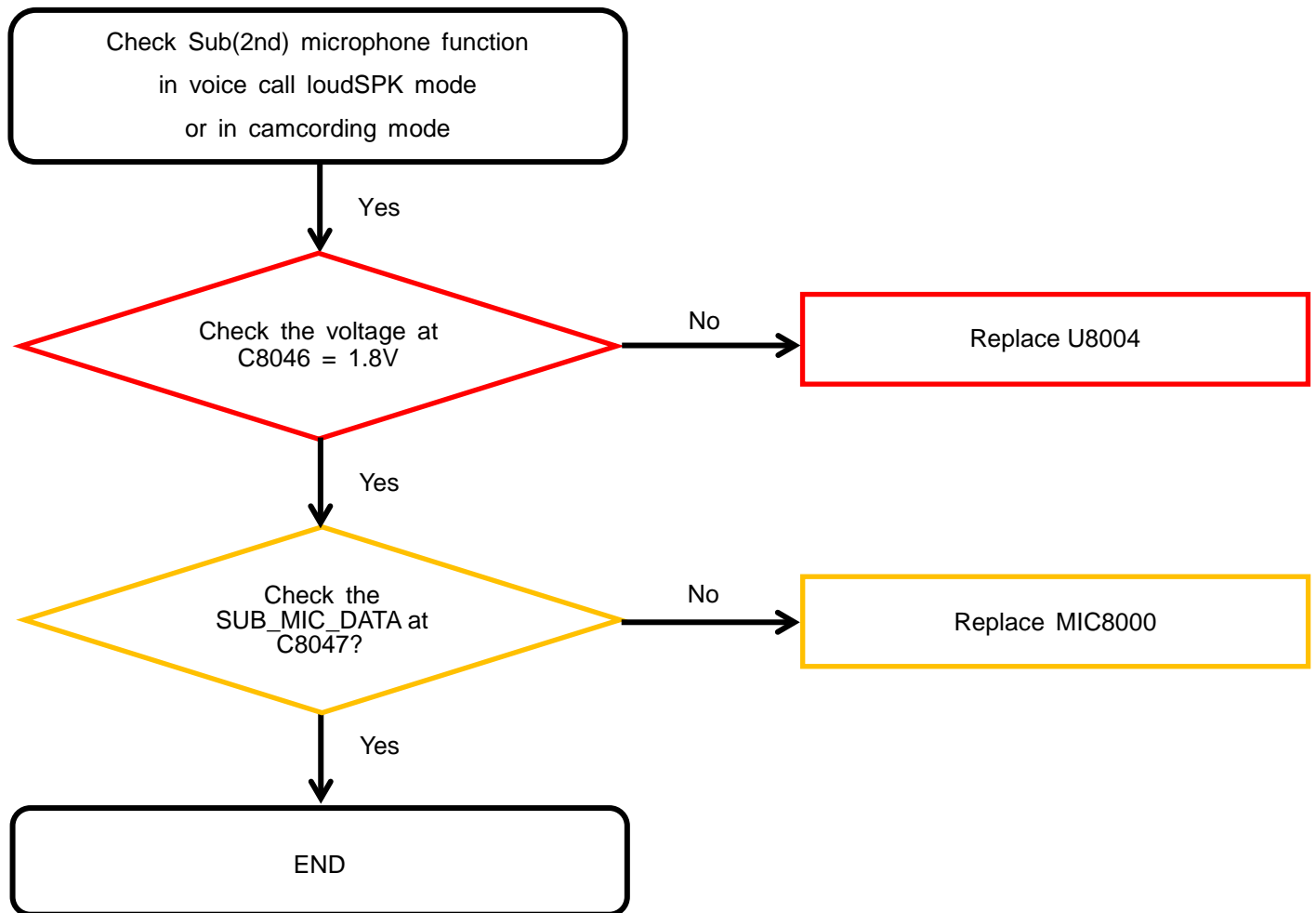
8. Level 3 Repair

8-4-9-1. Microphone Part - Main MIC



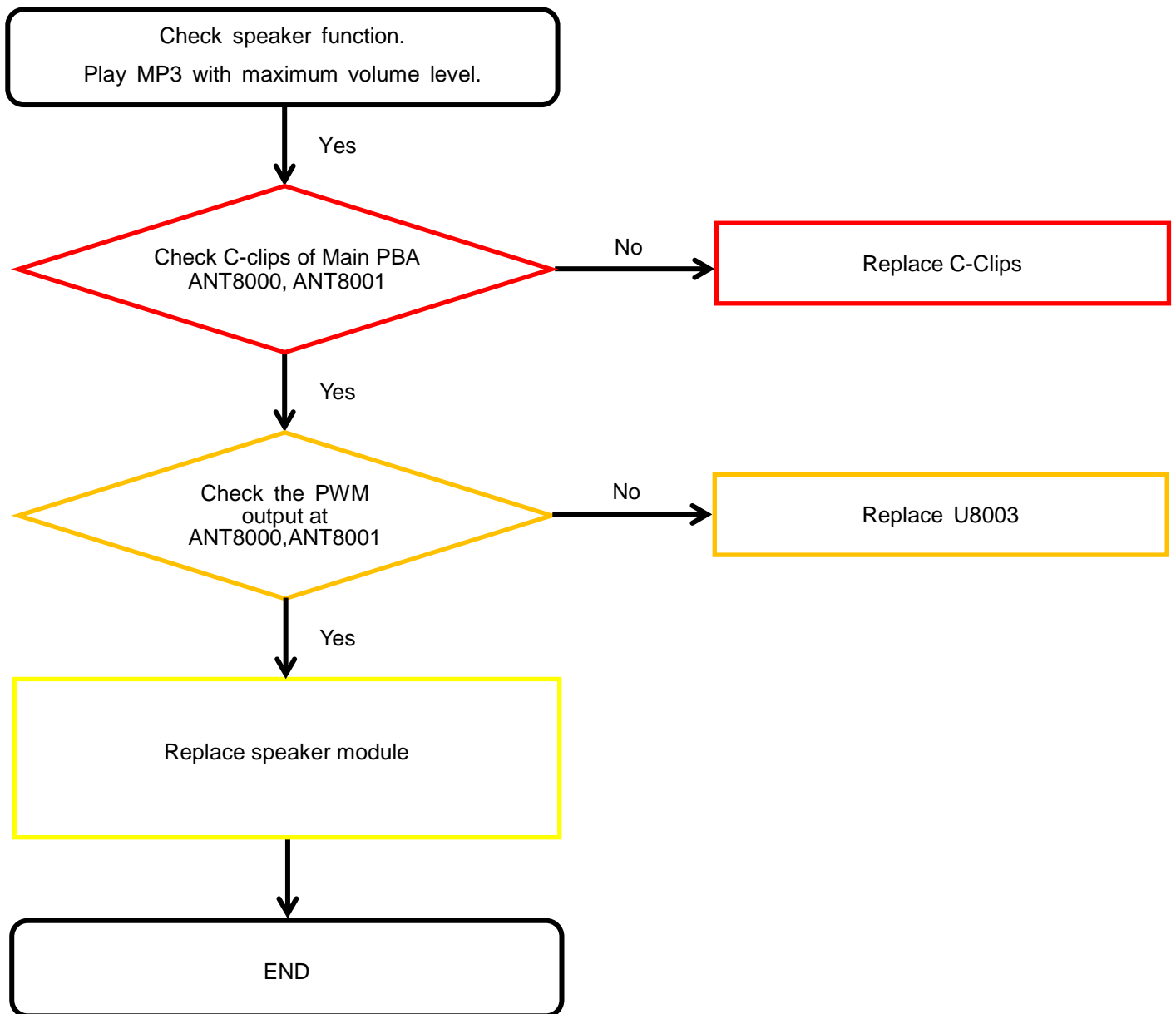
8. Level 3 Repair

8-4-9-2. Microphone Part - Sub(2nd) MIC



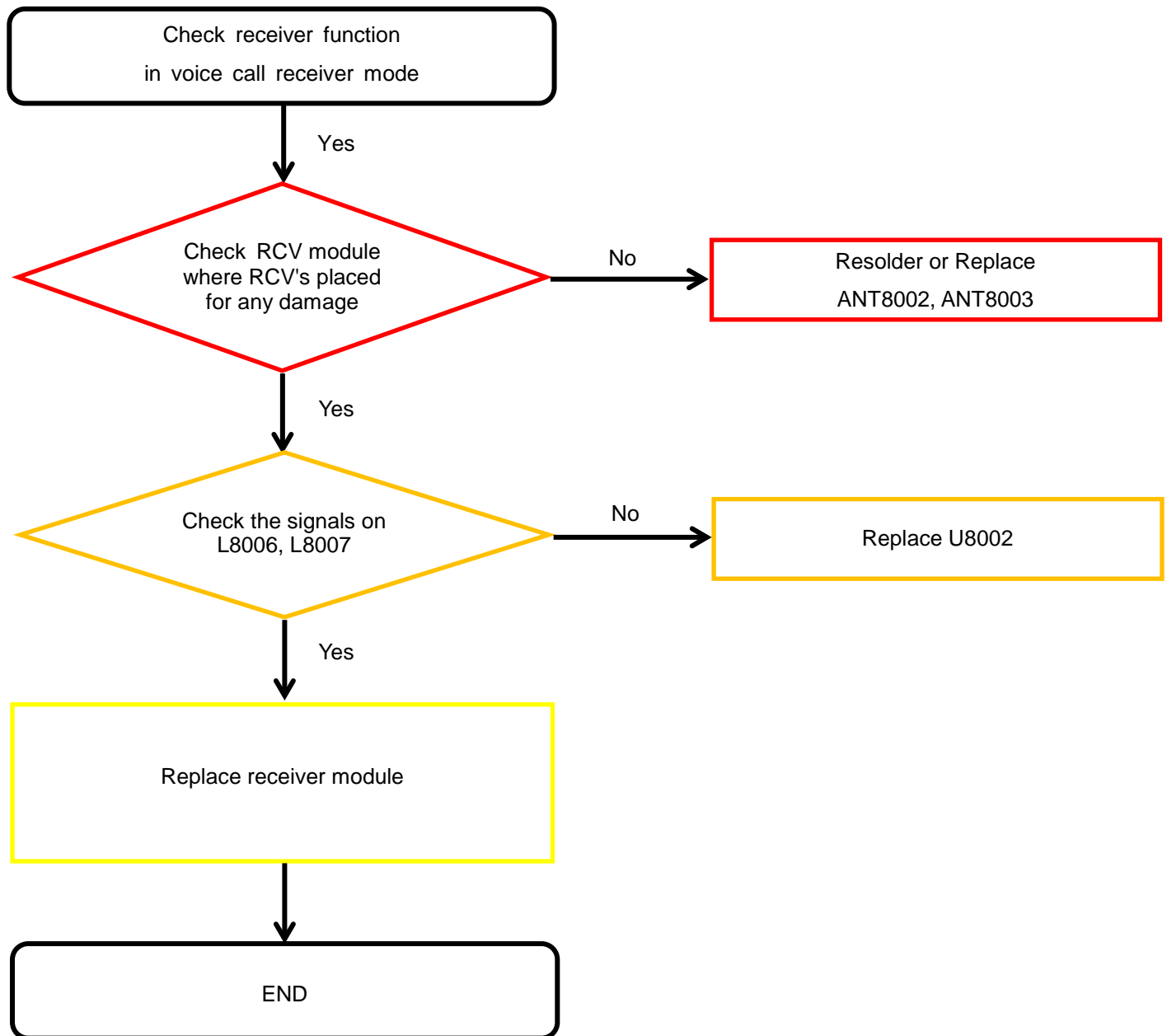
8. Level 3 Repair

8-4-10. Speaker Part



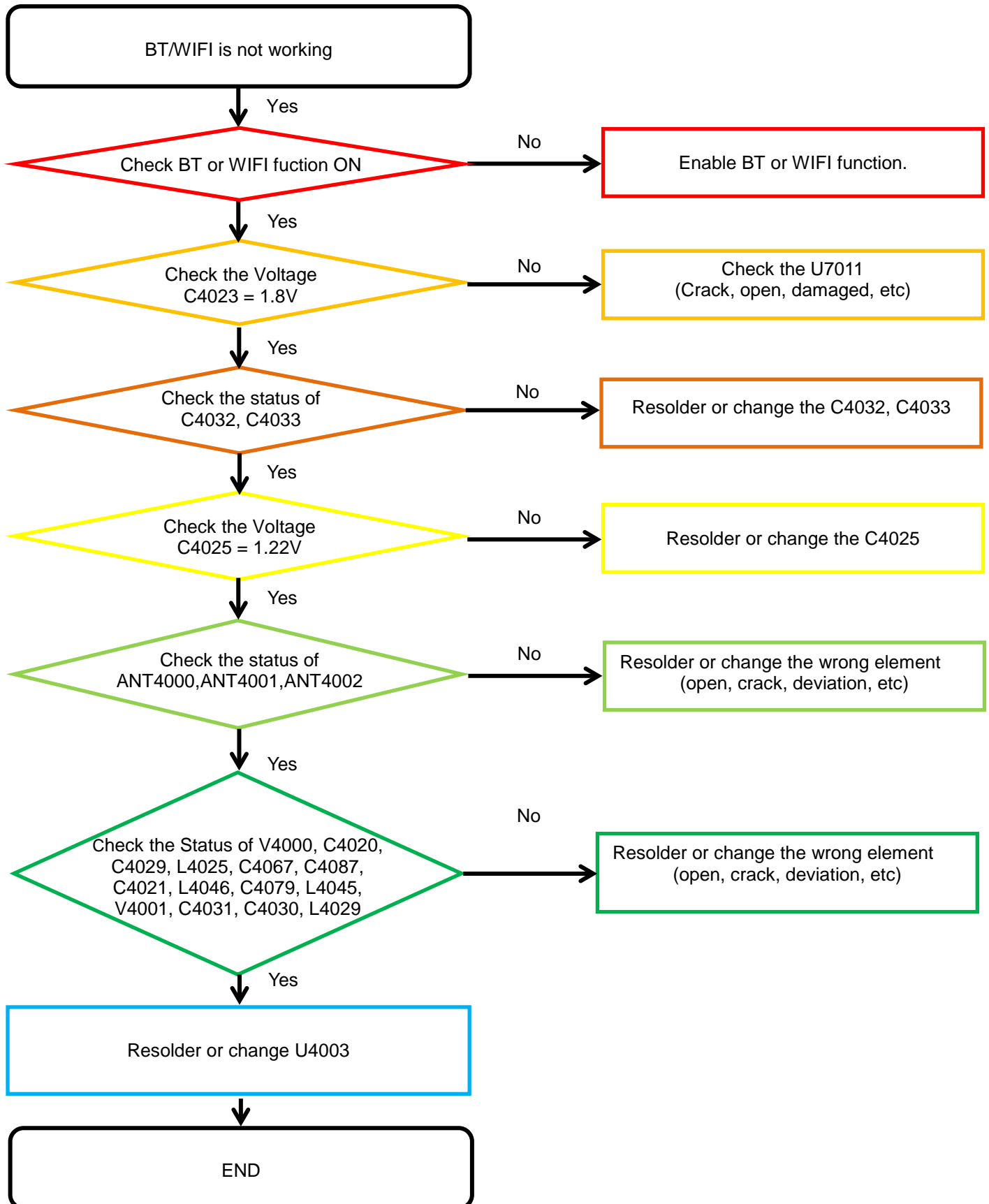
8. Level 3 Repair

8-4-11. Receiver Part



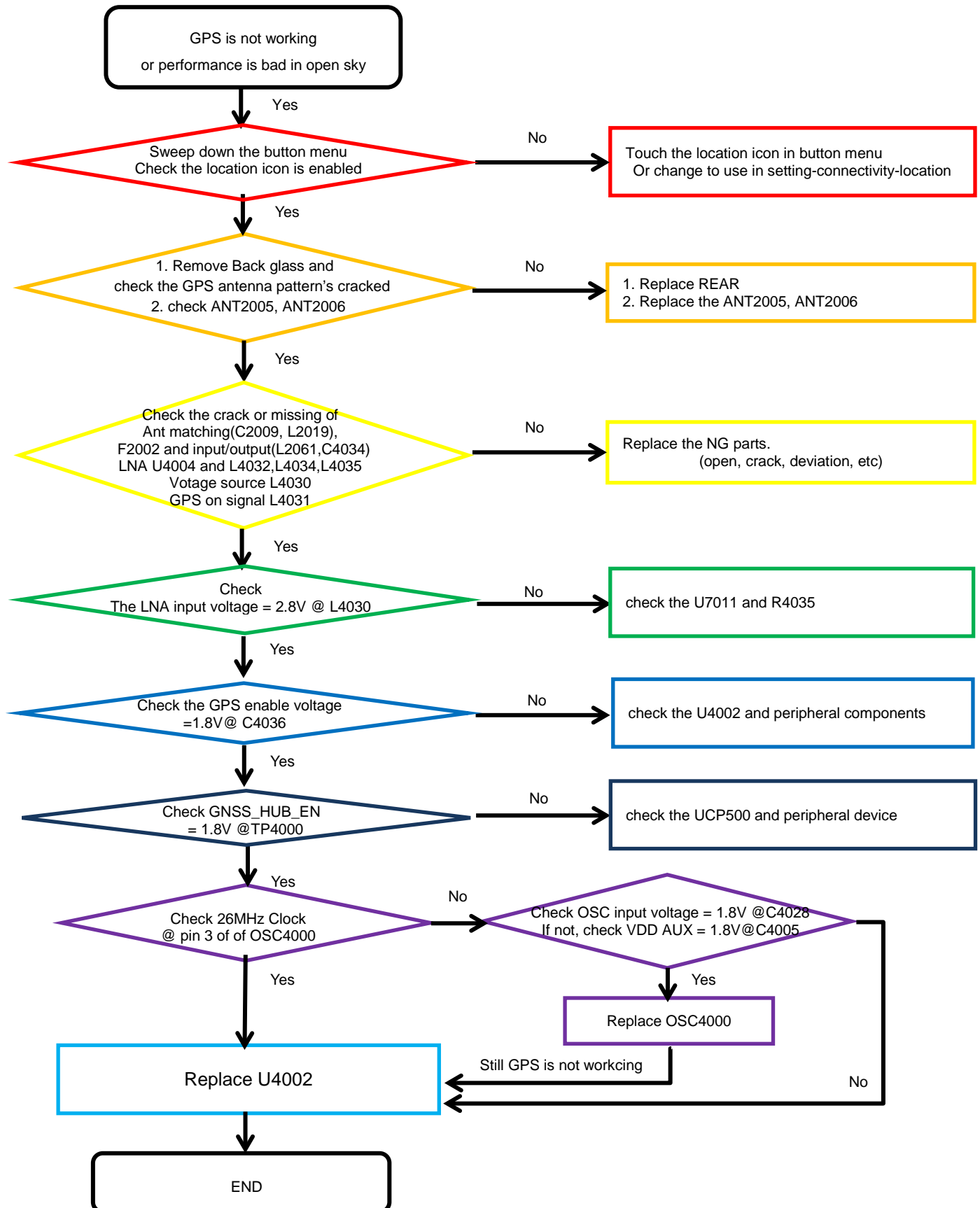
8. Level 3 Repair

8-4-12. BT/WIFI



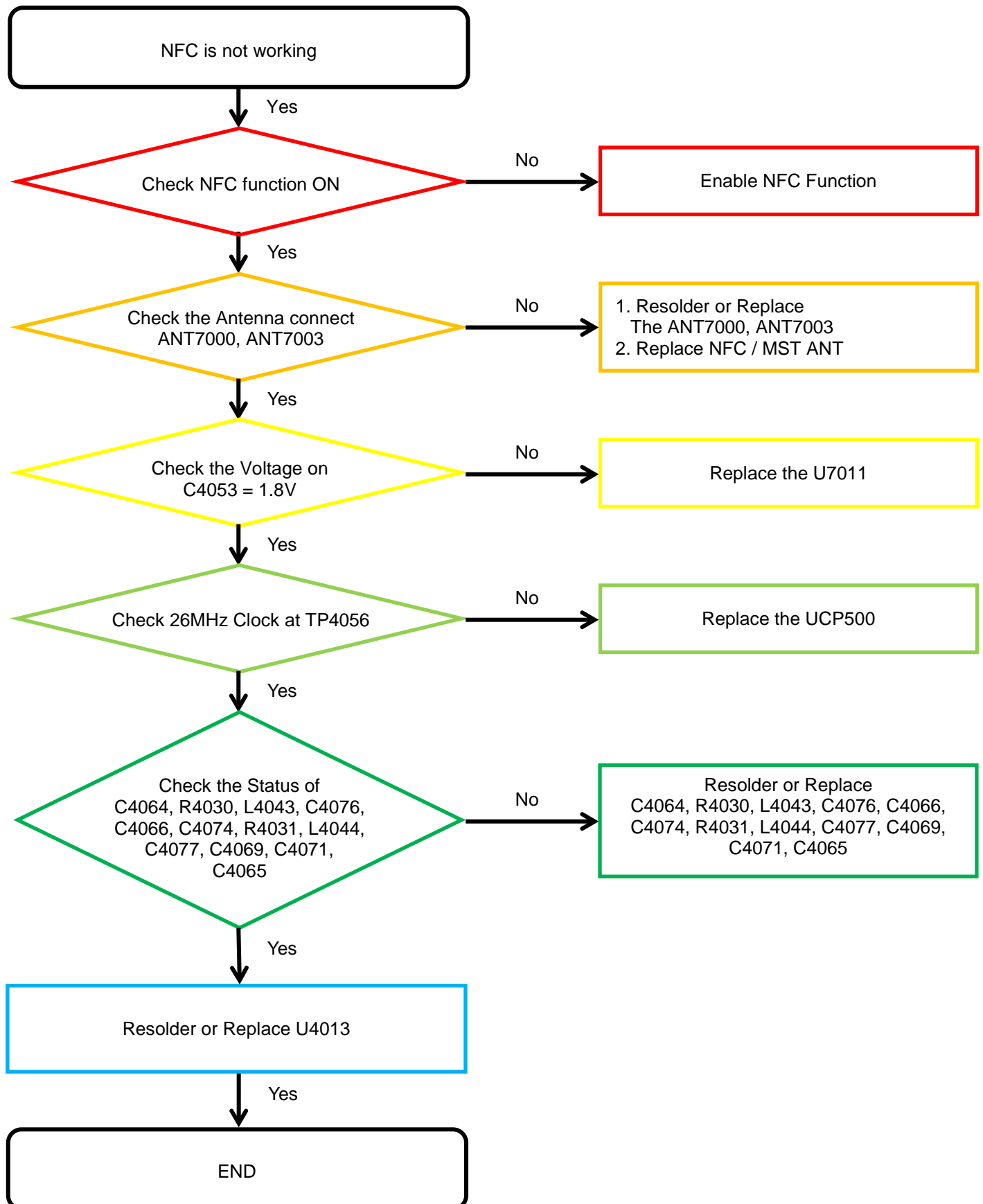
8. Level 3 Repair

8-4-13. GPS



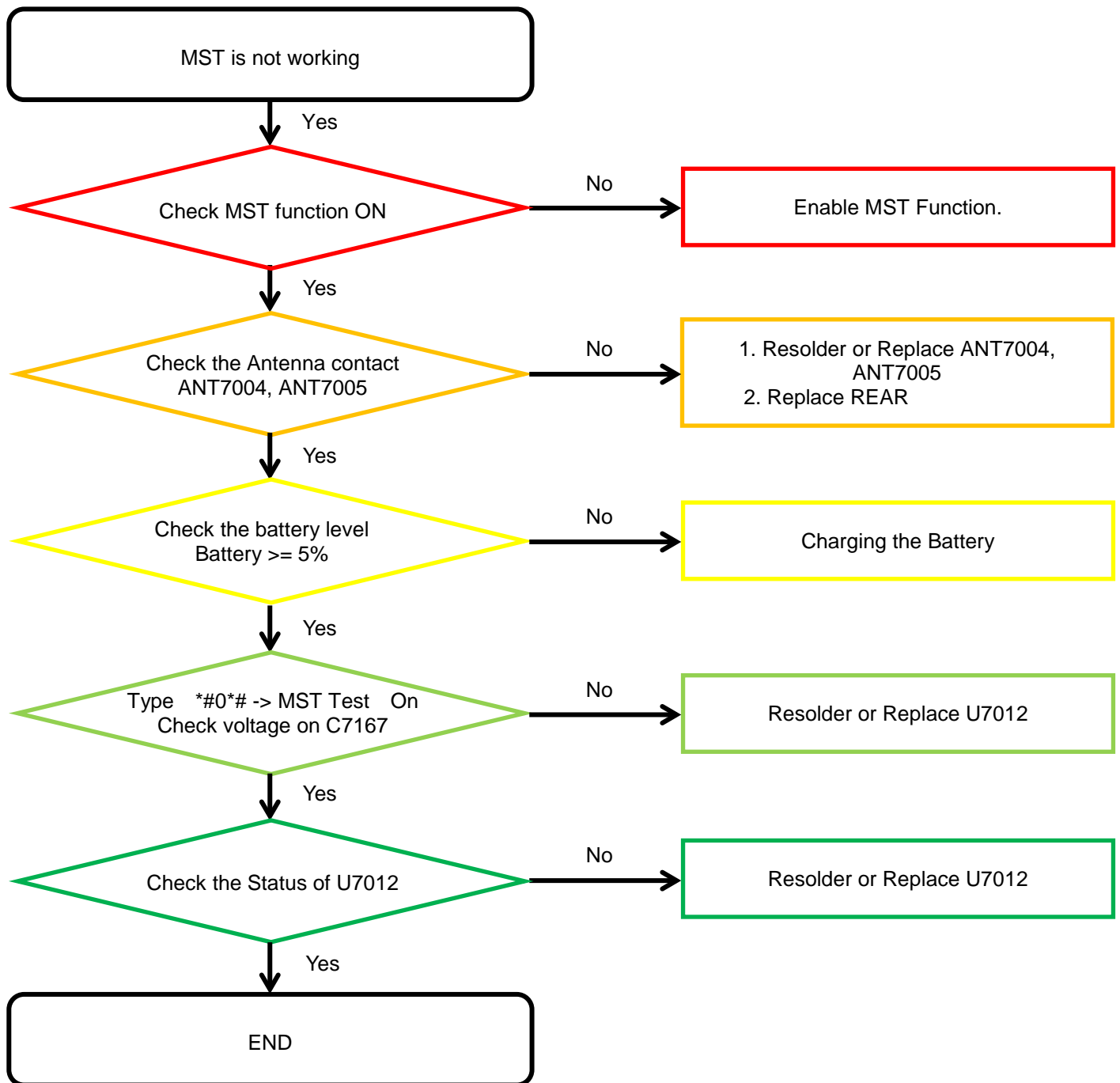
8. Level 3 Repair

8-4-14. NFC



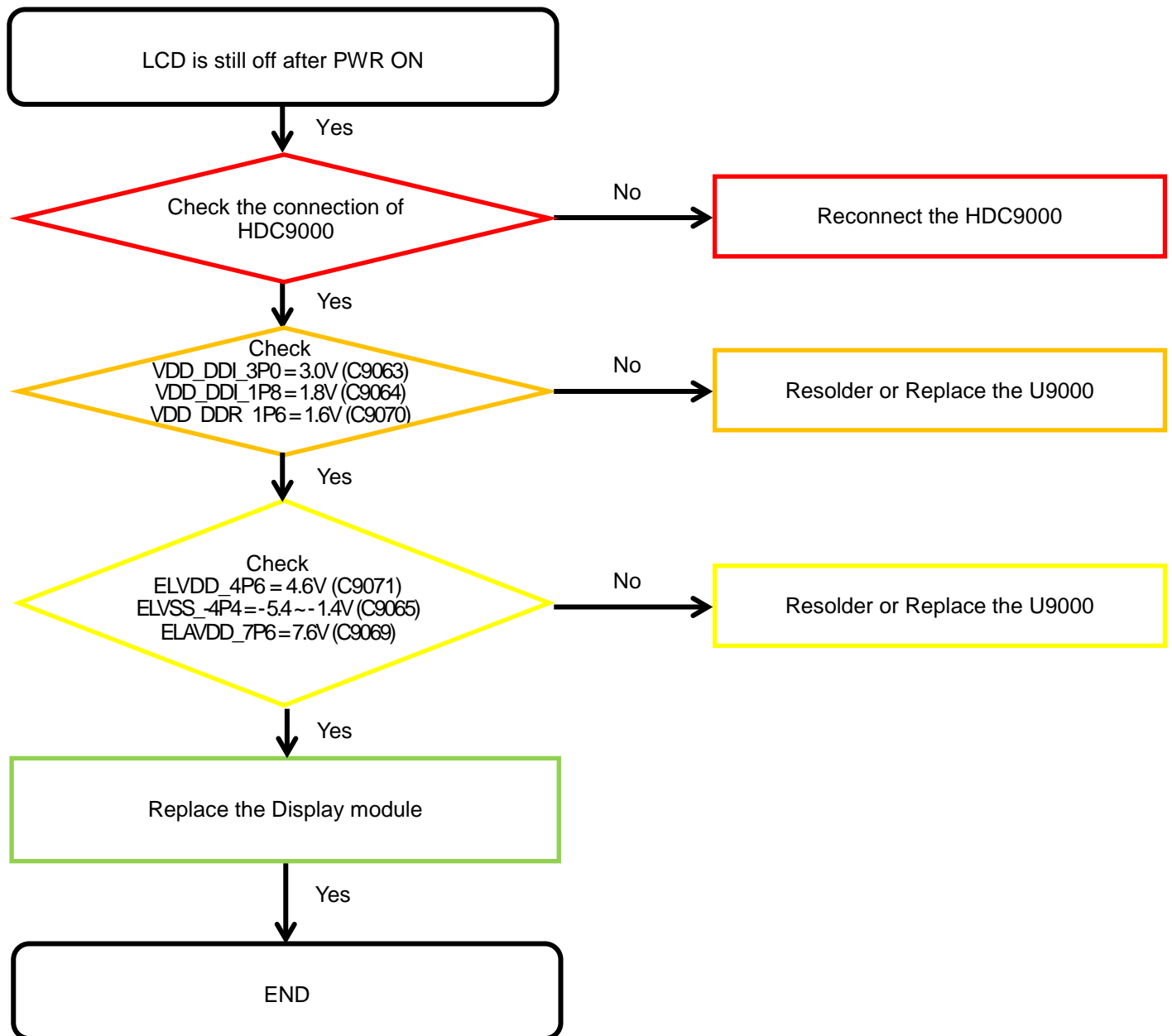
8. Level 3 Repair

8-4-15. MST



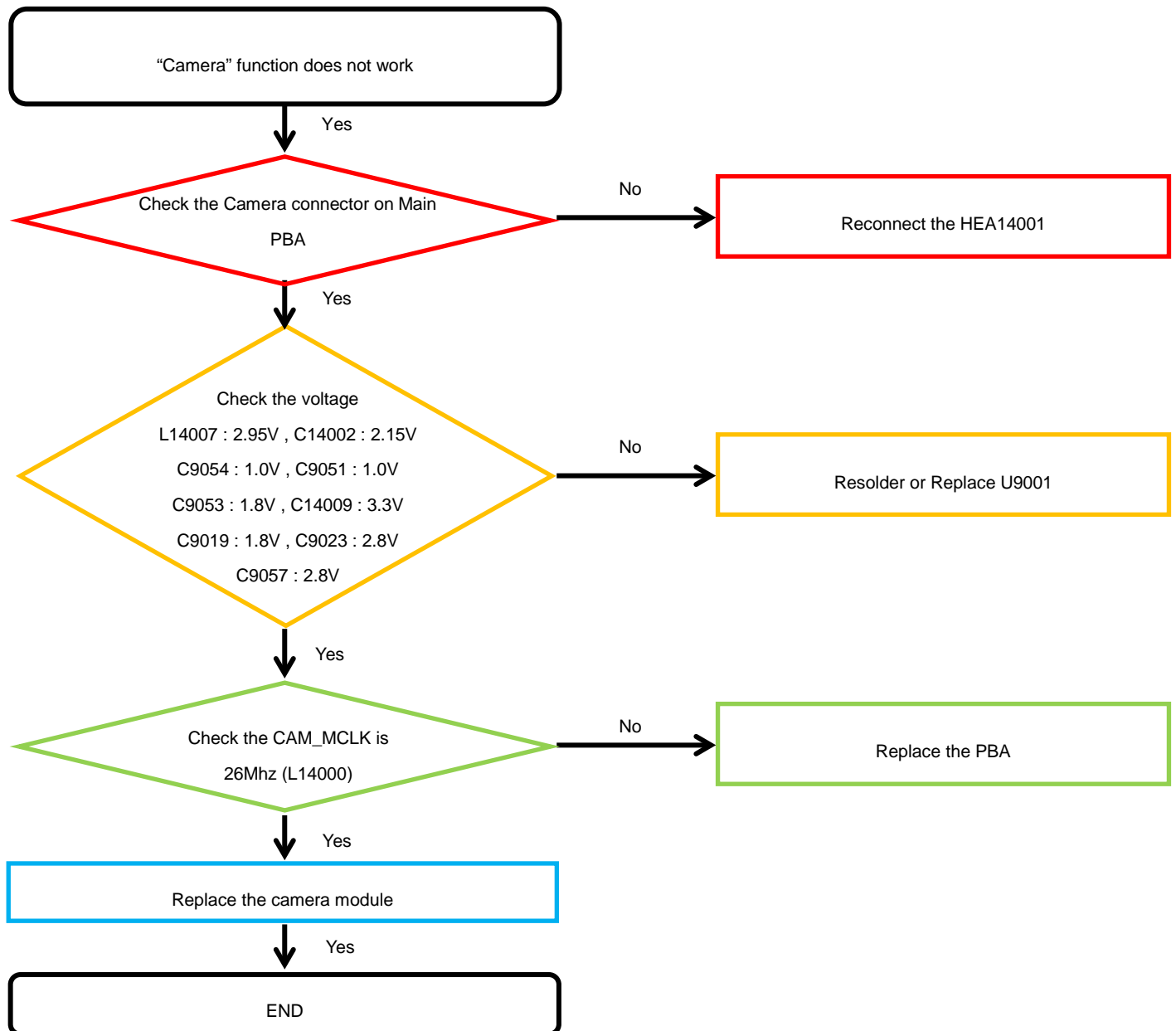
8. Level 3 Repair

8-4-16. Display



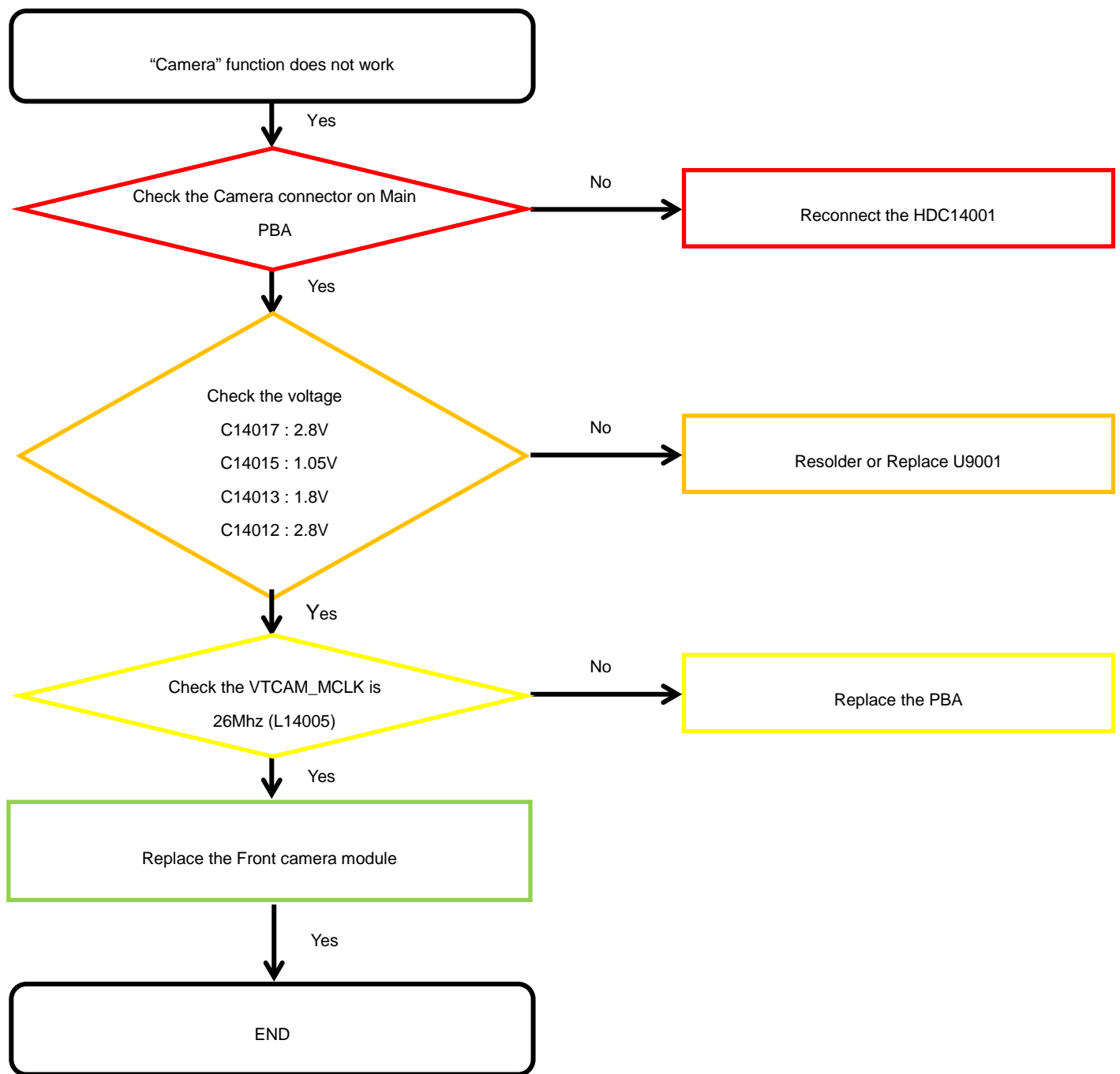
8. Level 3 Repair

8-4-17. 12M CAMERA



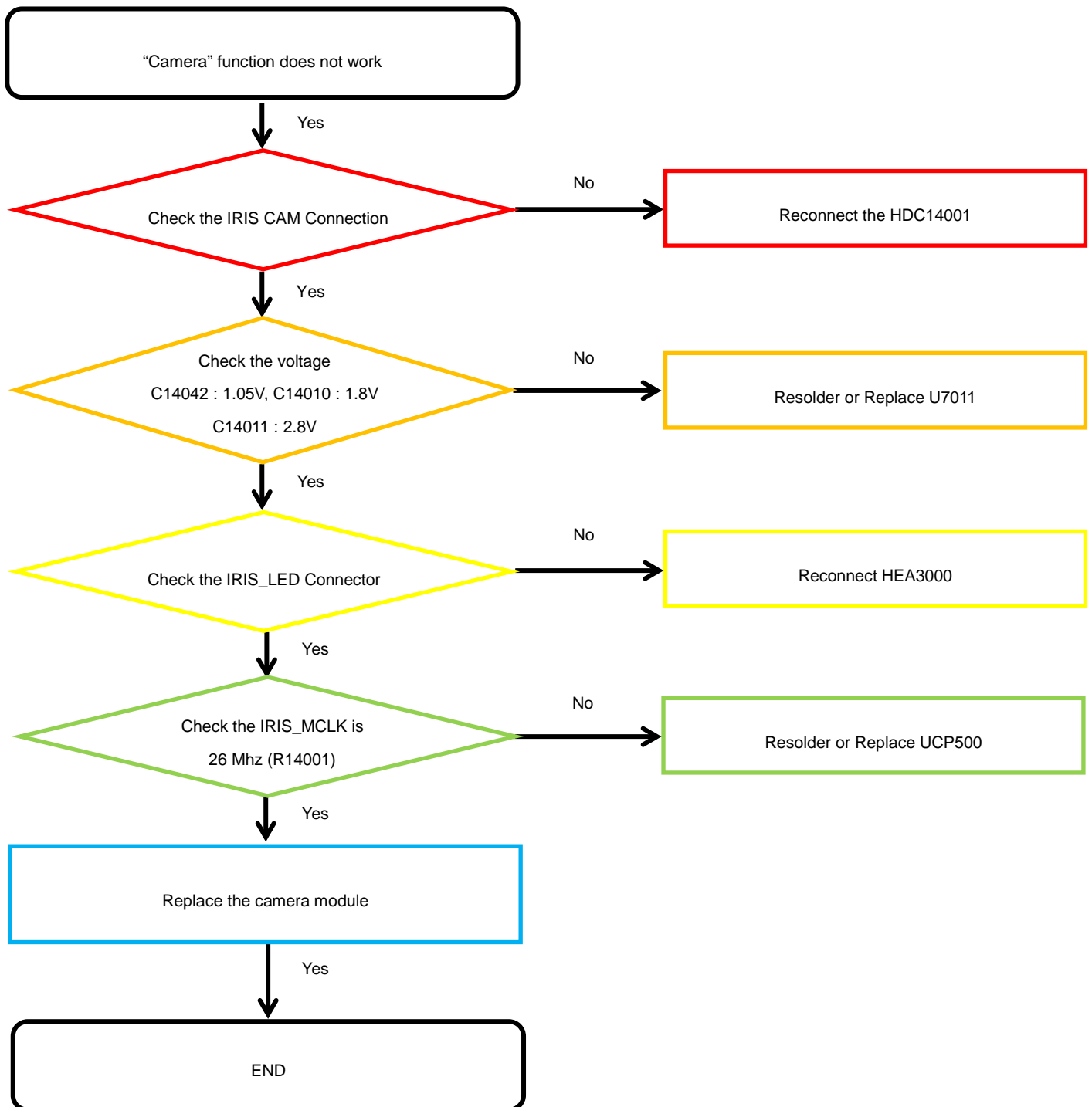
8. Level 3 Repair

8-4-18. 8M CAMERA



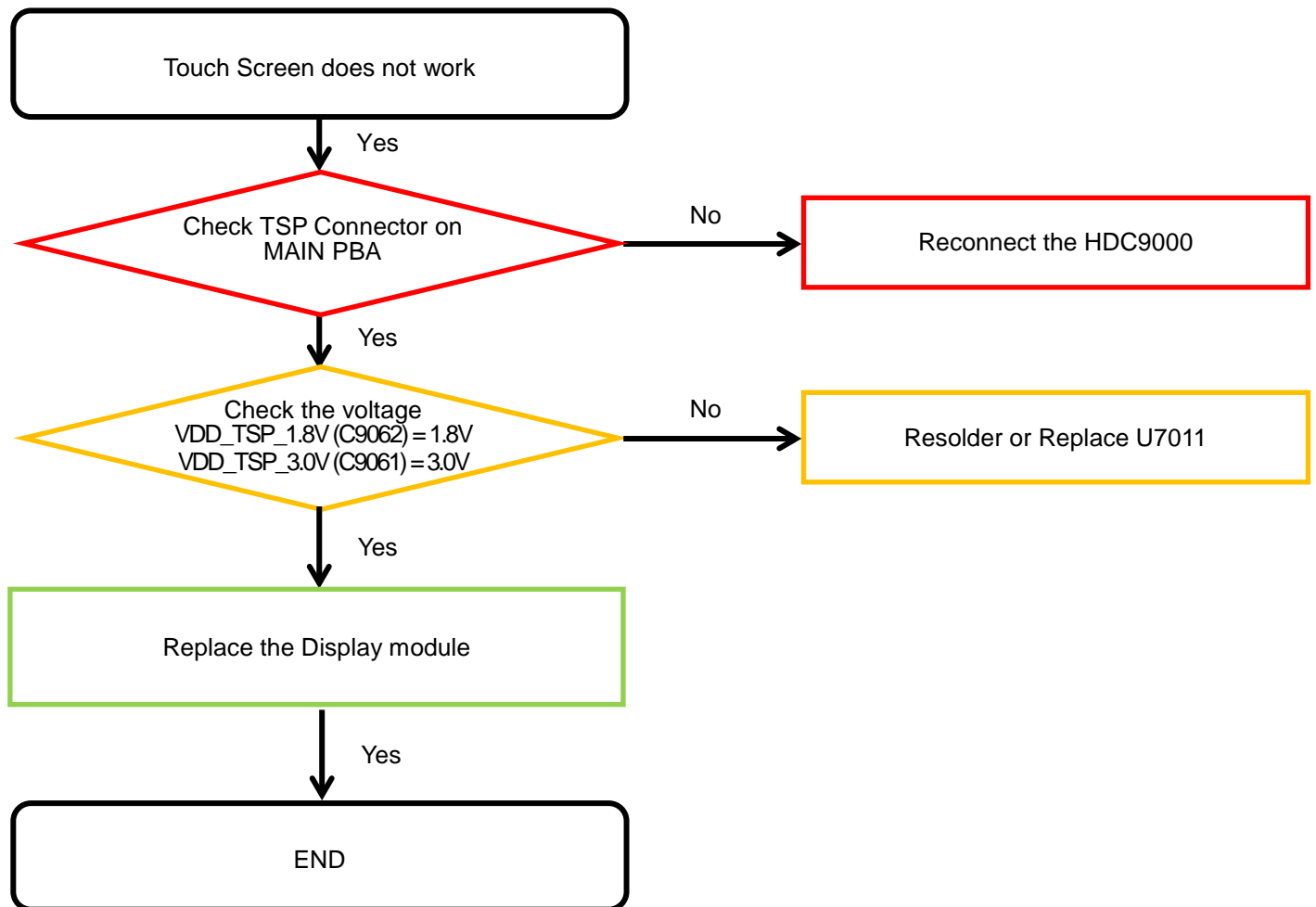
8. Level 3 Repair

8-4-19. IRIS CAM



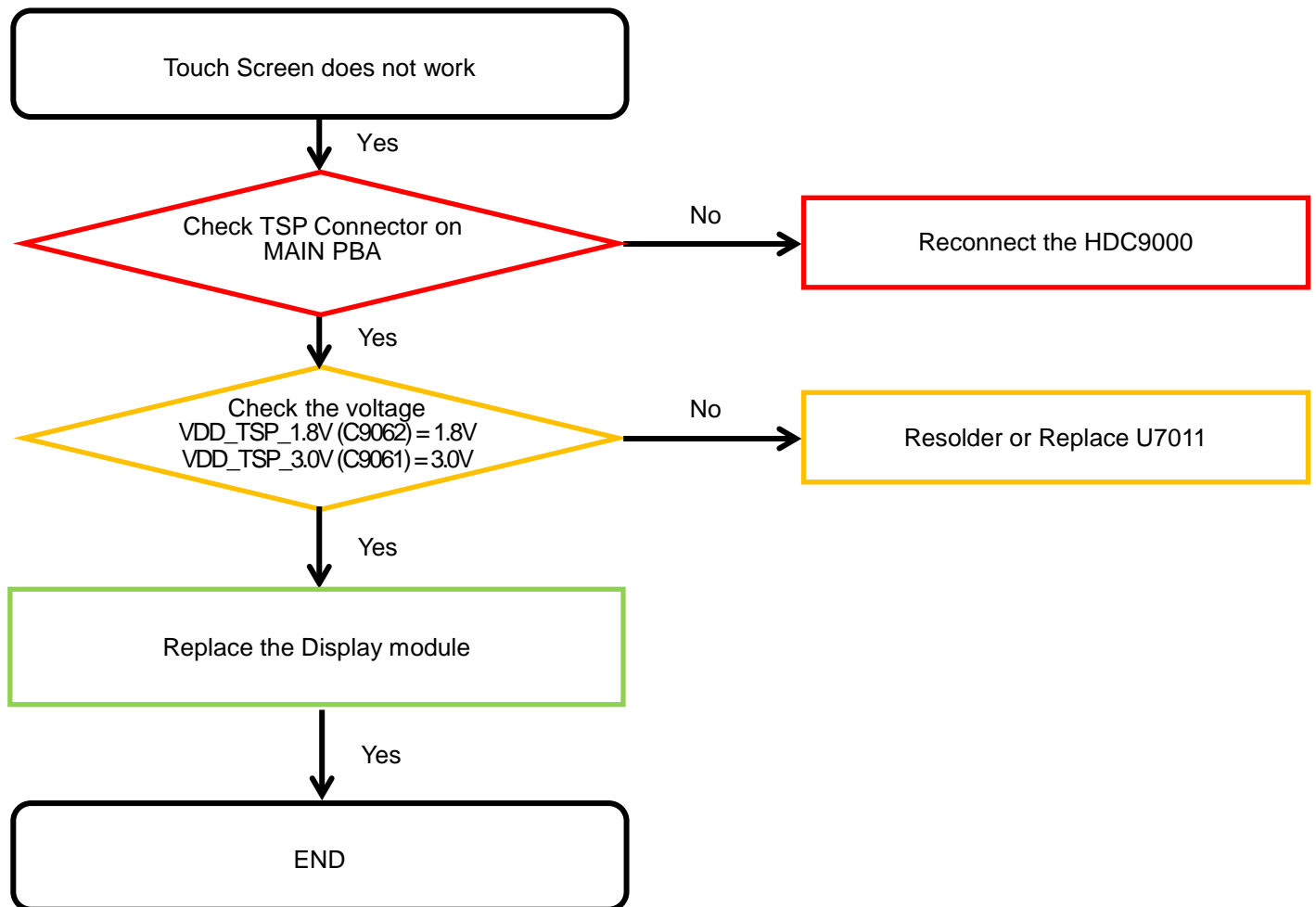
8. Level 3 Repair

8-4-20. TSP



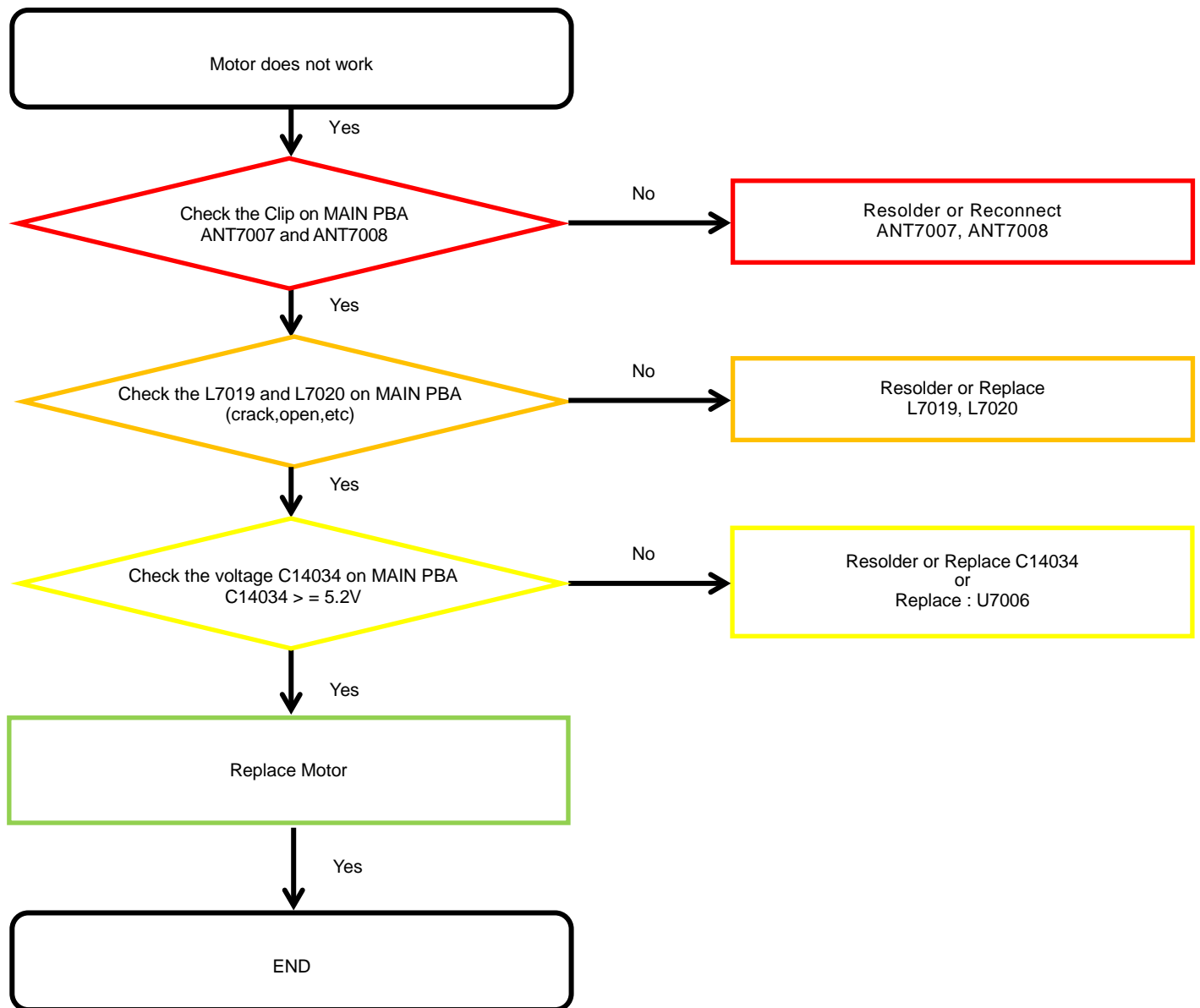
8. Level 3 Repair

8-4-21. Pressure Touch (Home Button function)



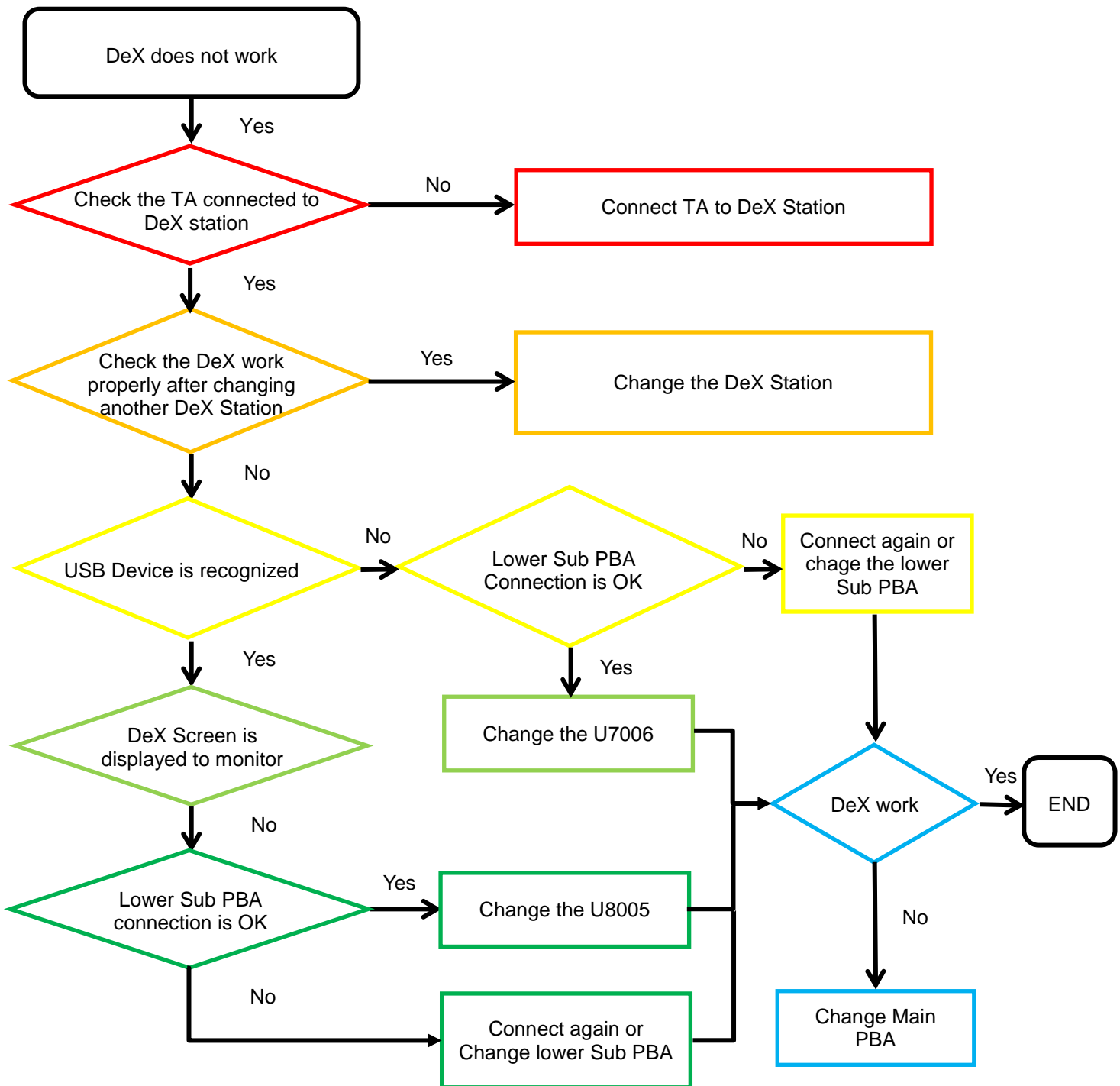
8. Level 3 Repair

8-4-22. Motor



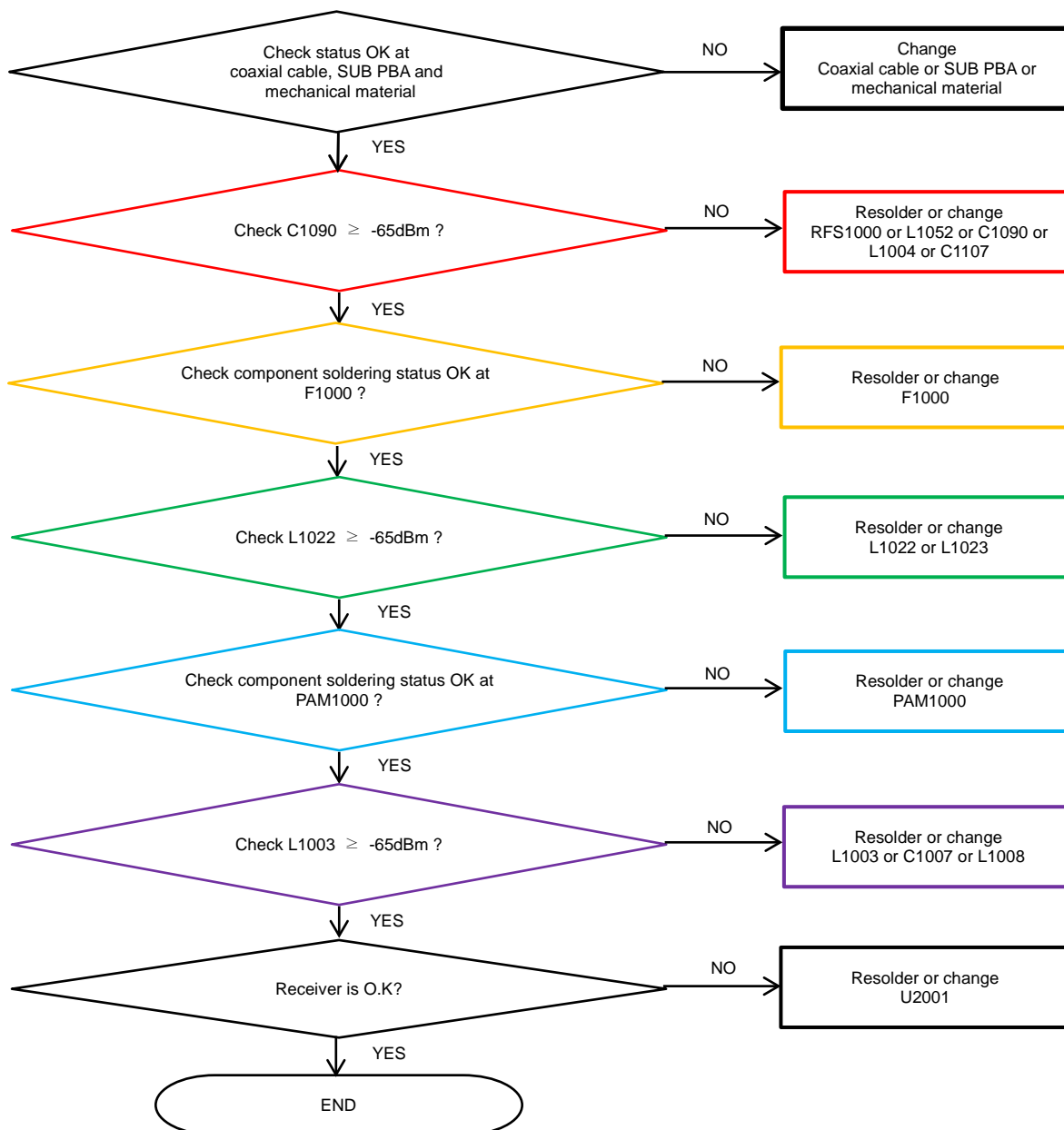
8. Level 3 Repair

8-4-23. DeX Station



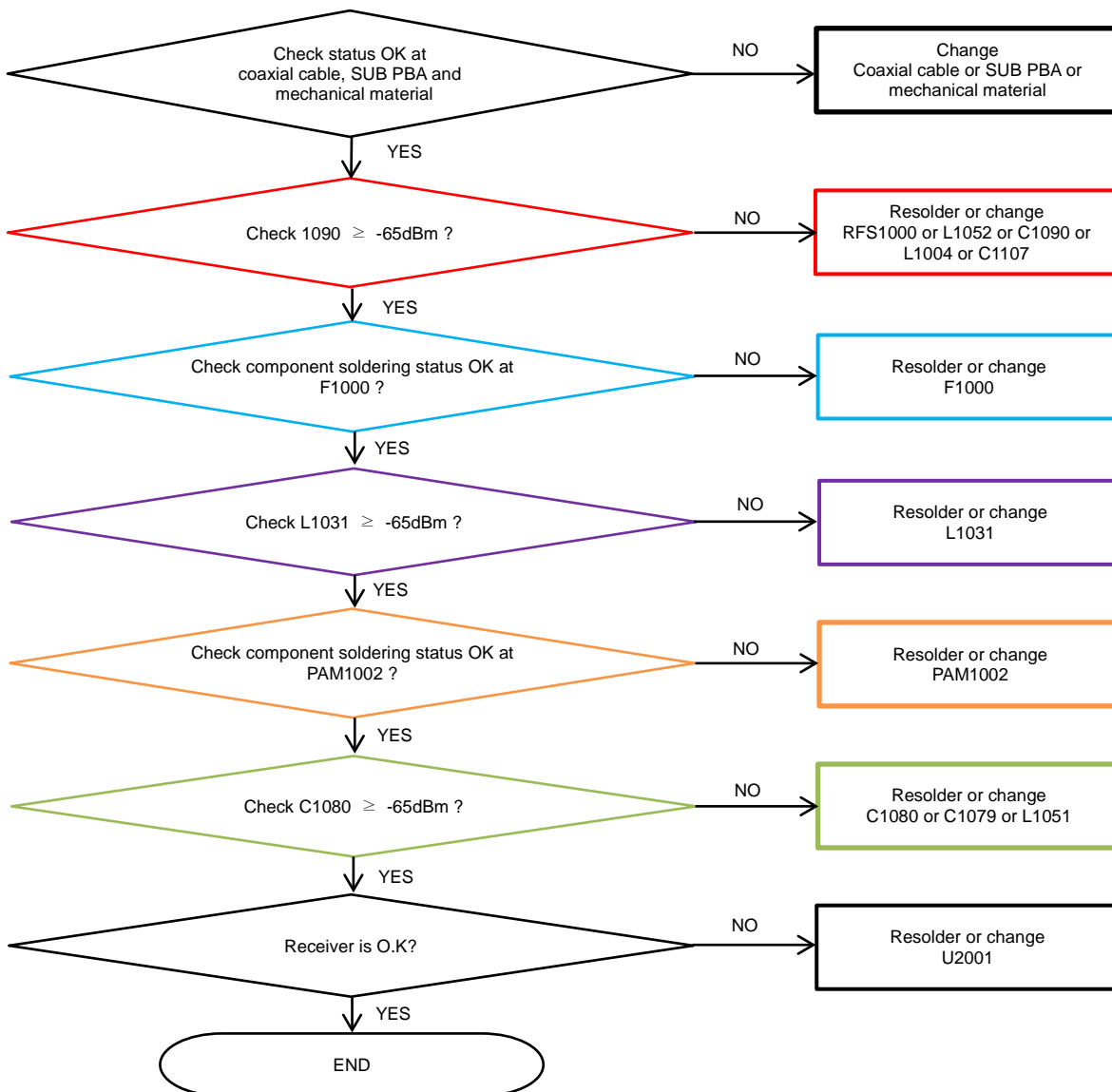
8. Level 3 Repair

8-4-24. GSM 850/900, WCDMA B5/8, LTE B5/8/12/13/17/18/19/20/26/28 PRx



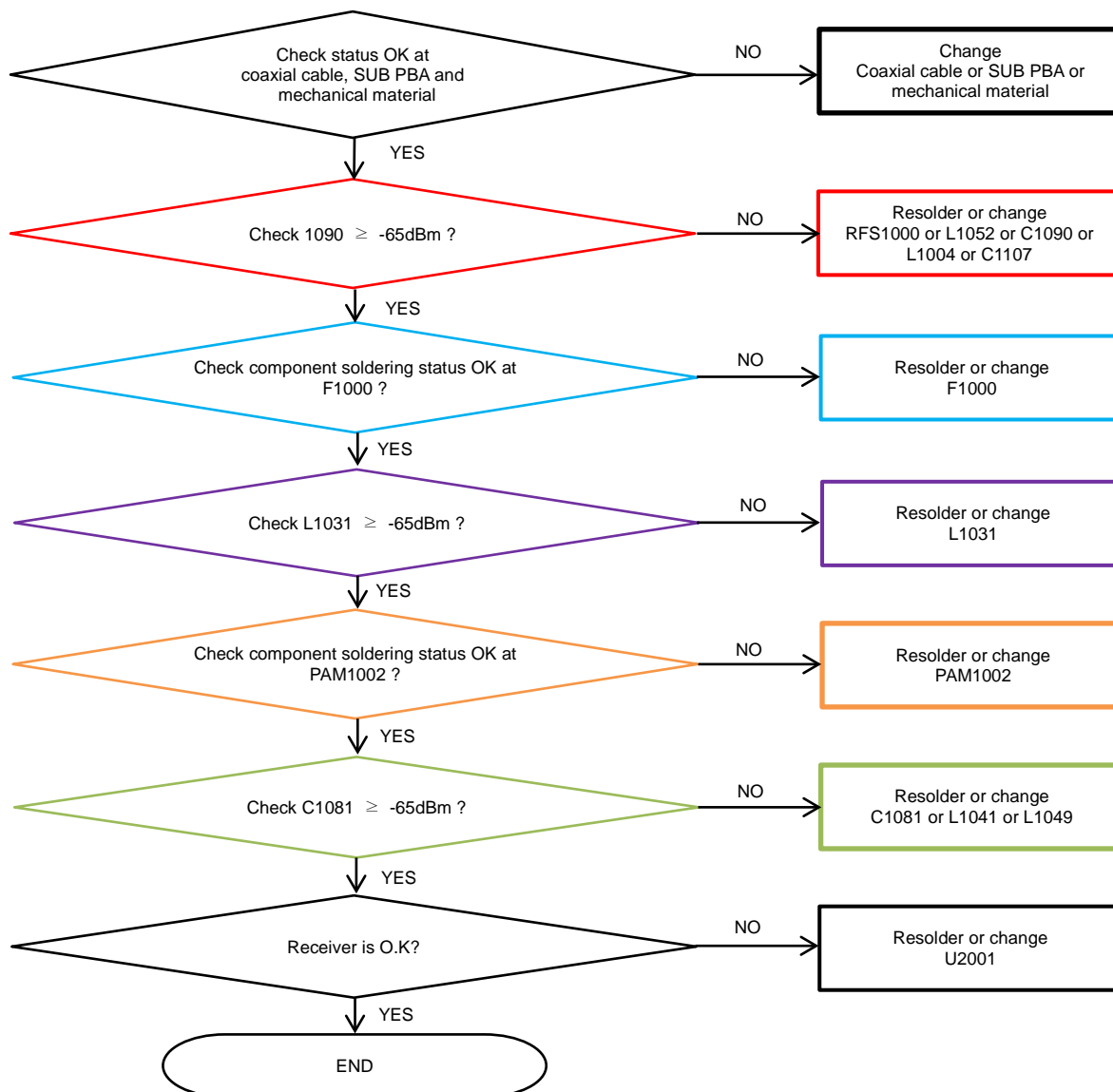
8. Level 3 Repair

8-4-25. LTE B7/38/40/41 PRx



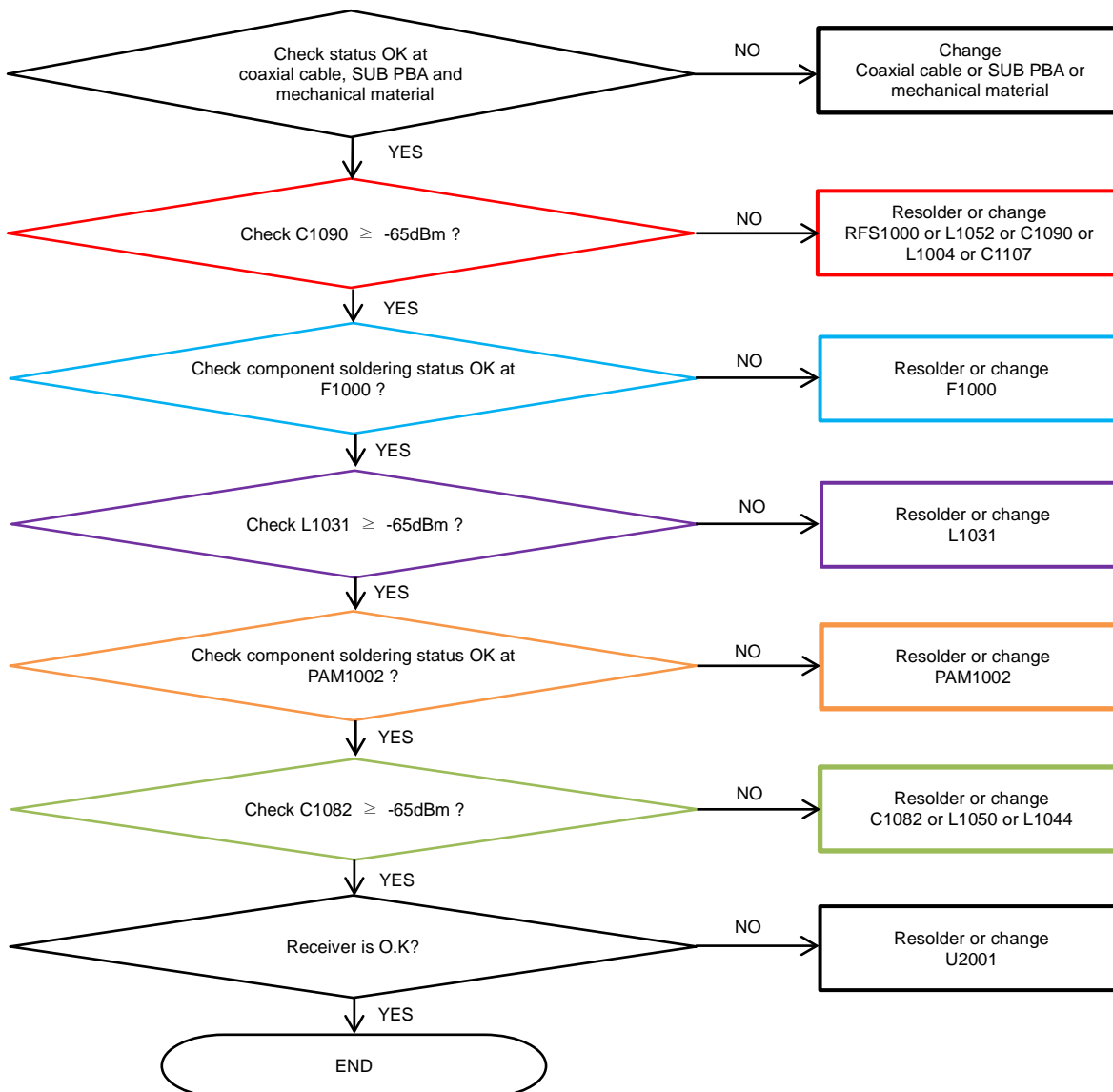
8. Level 3 Repair

8-4-26. DCS1800/PCS1900, WCDMA B2, LTE B2/3/25 PRx



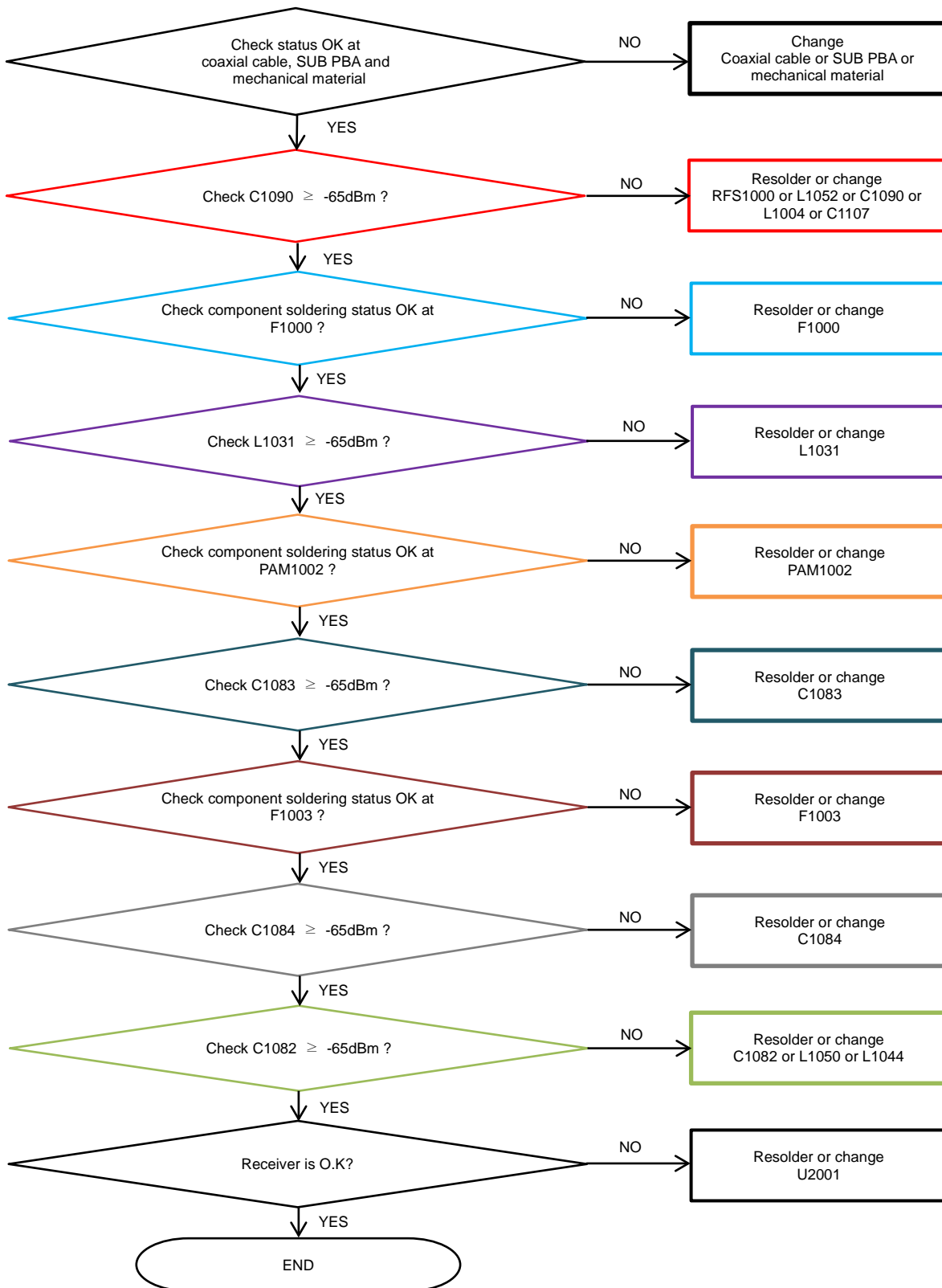
8. Level 3 Repair

8-4-27. WCDMA B1/4, TDSCDMA B39, LTE B1/4/39/66 PRx



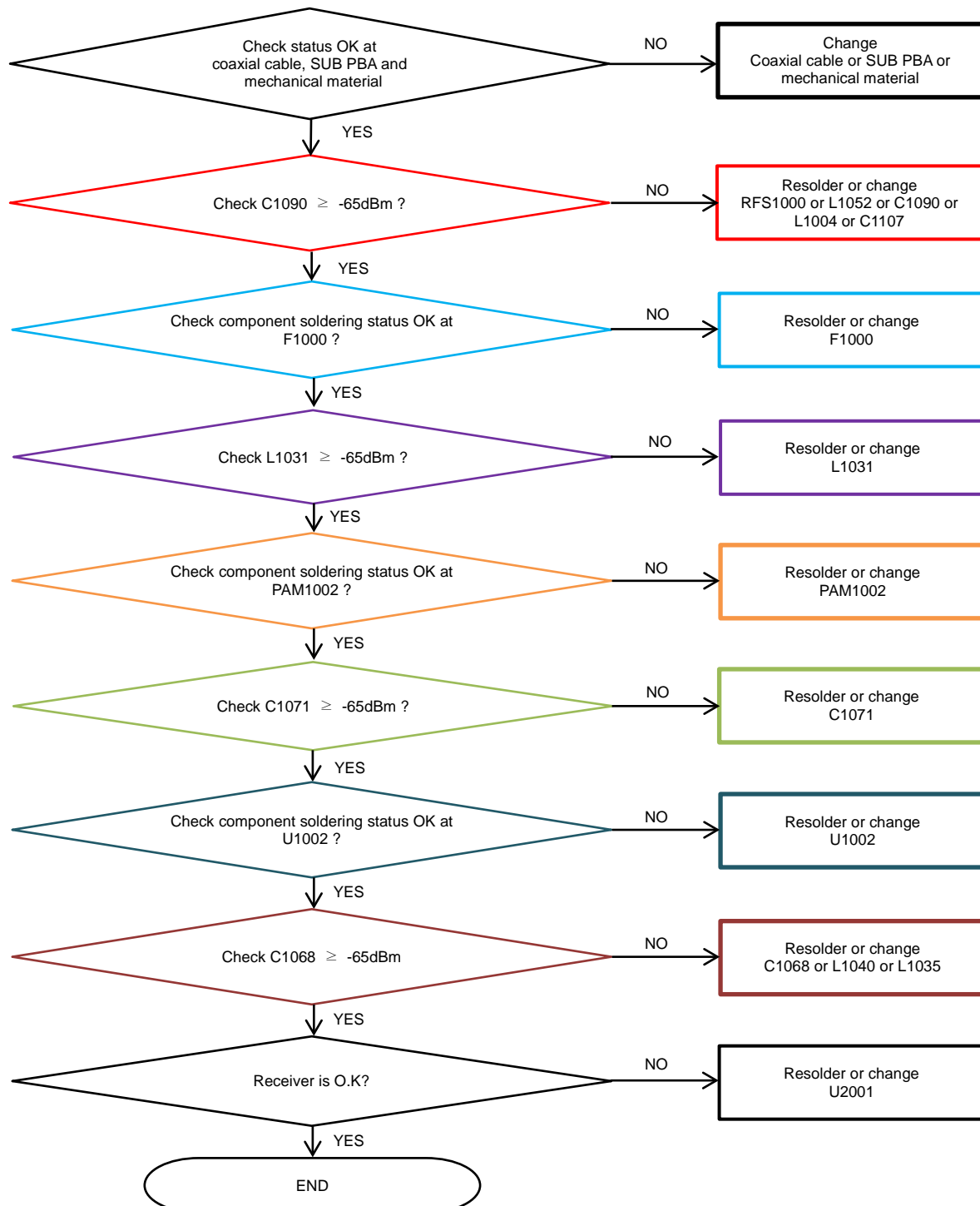
8. Level 3 Repair

8-4-28. TDSCDMA B34 PRx



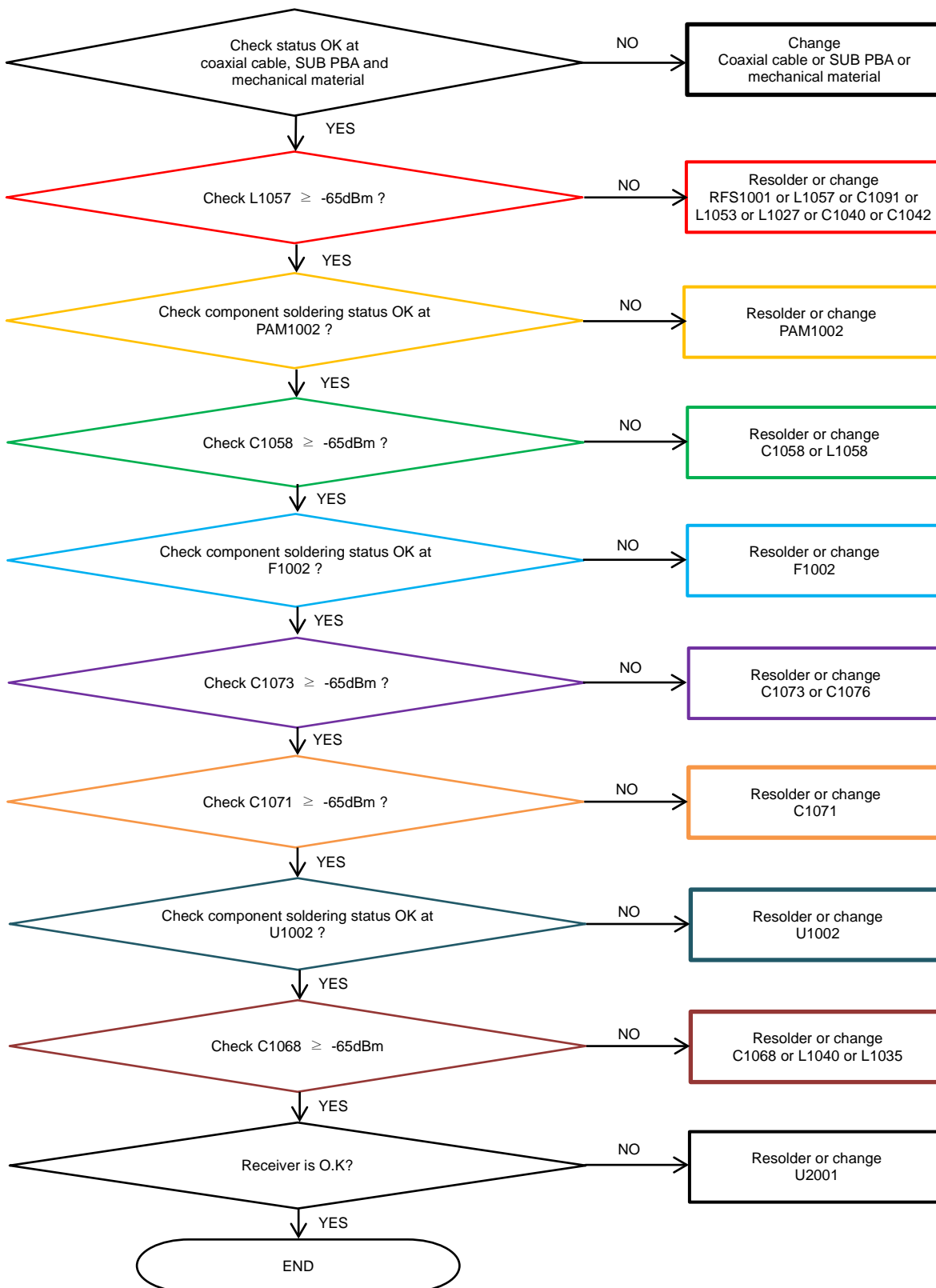
8. Level 3 Repair

8-4-29. LTE B32 PRx



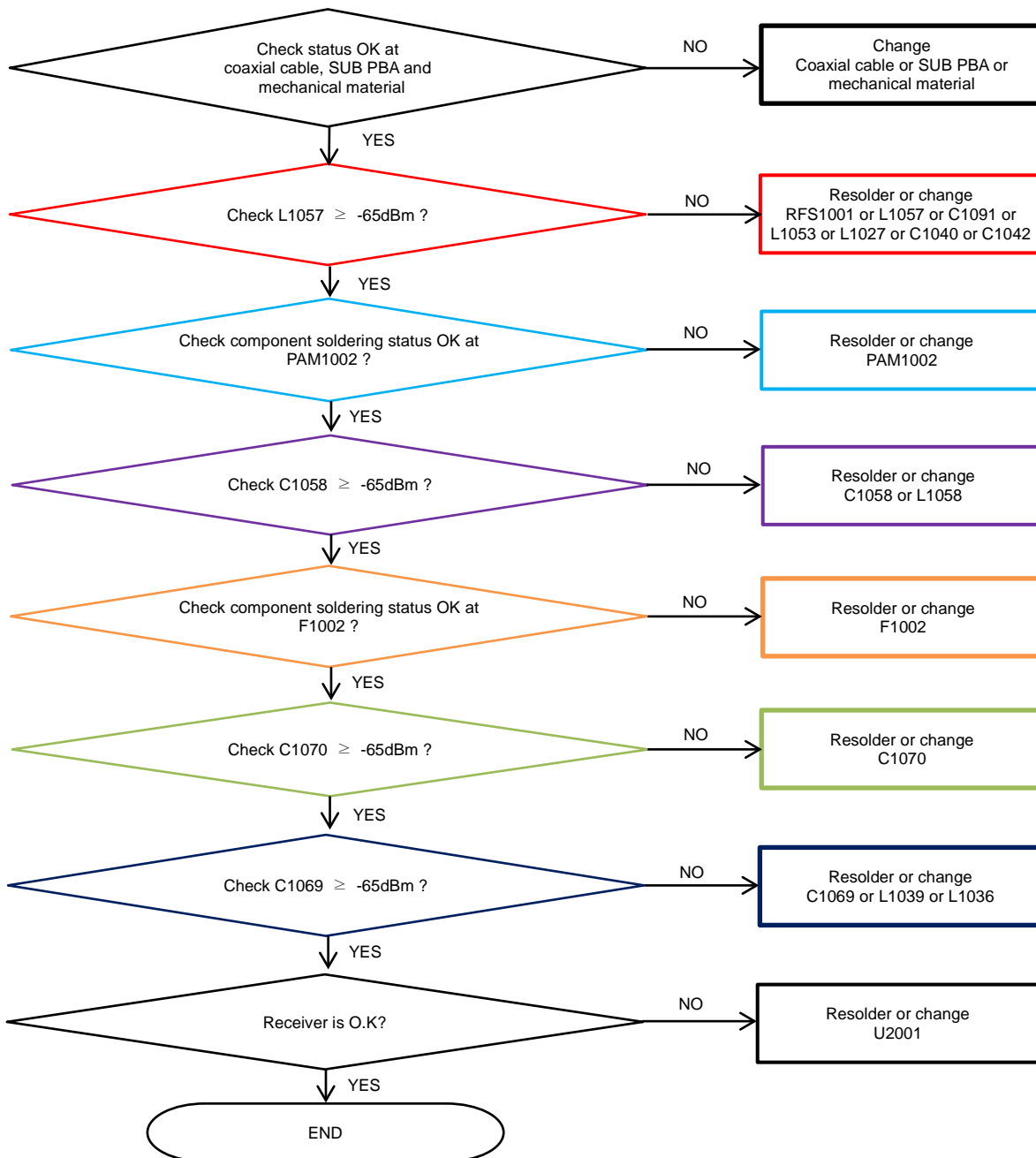
8. Level 3 Repair

8-4-30. LTE B1/4 4Rx_PRx



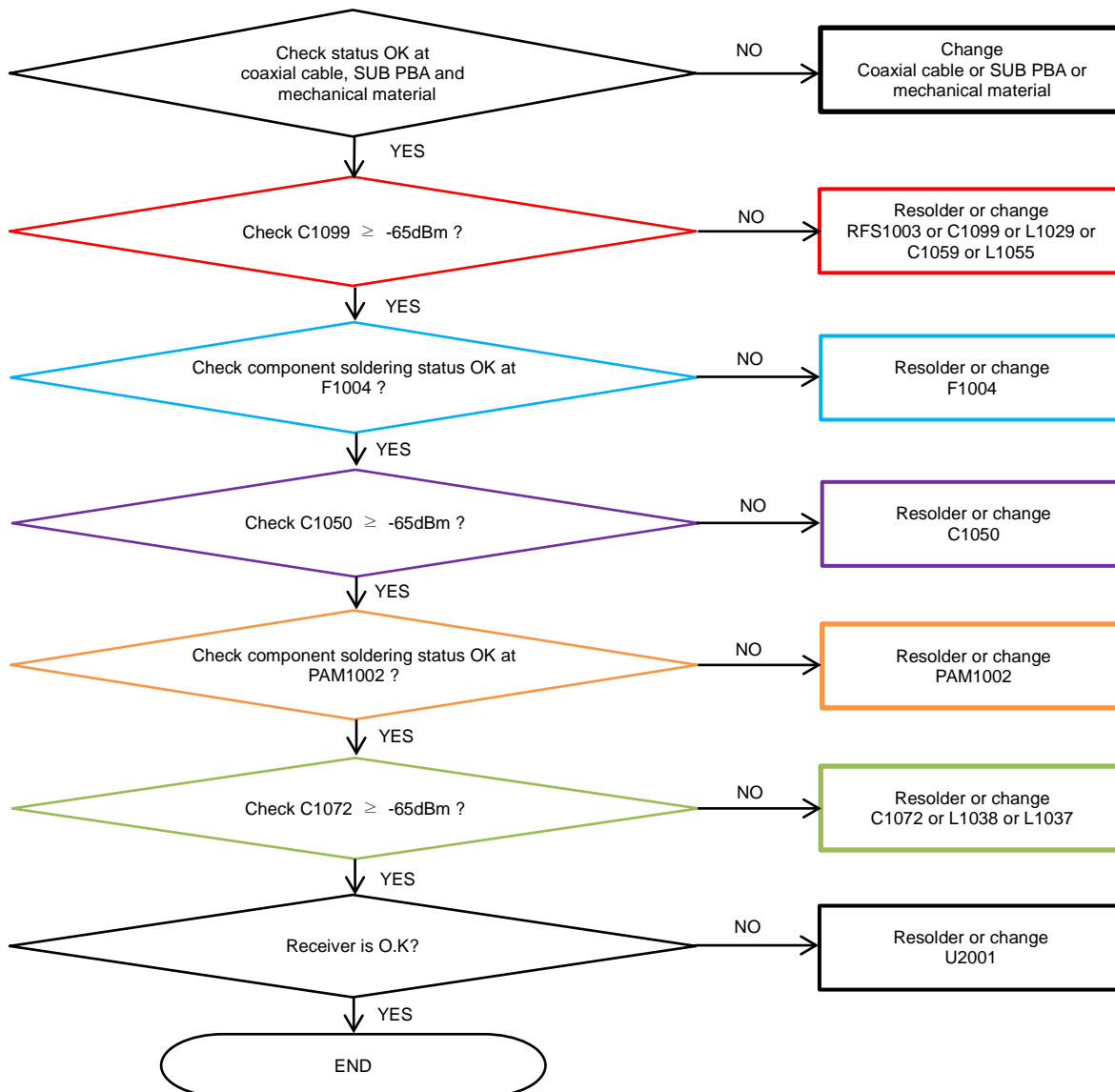
8. Level 3 Repair

8-4-31. LTE B3 4Rx_PRx



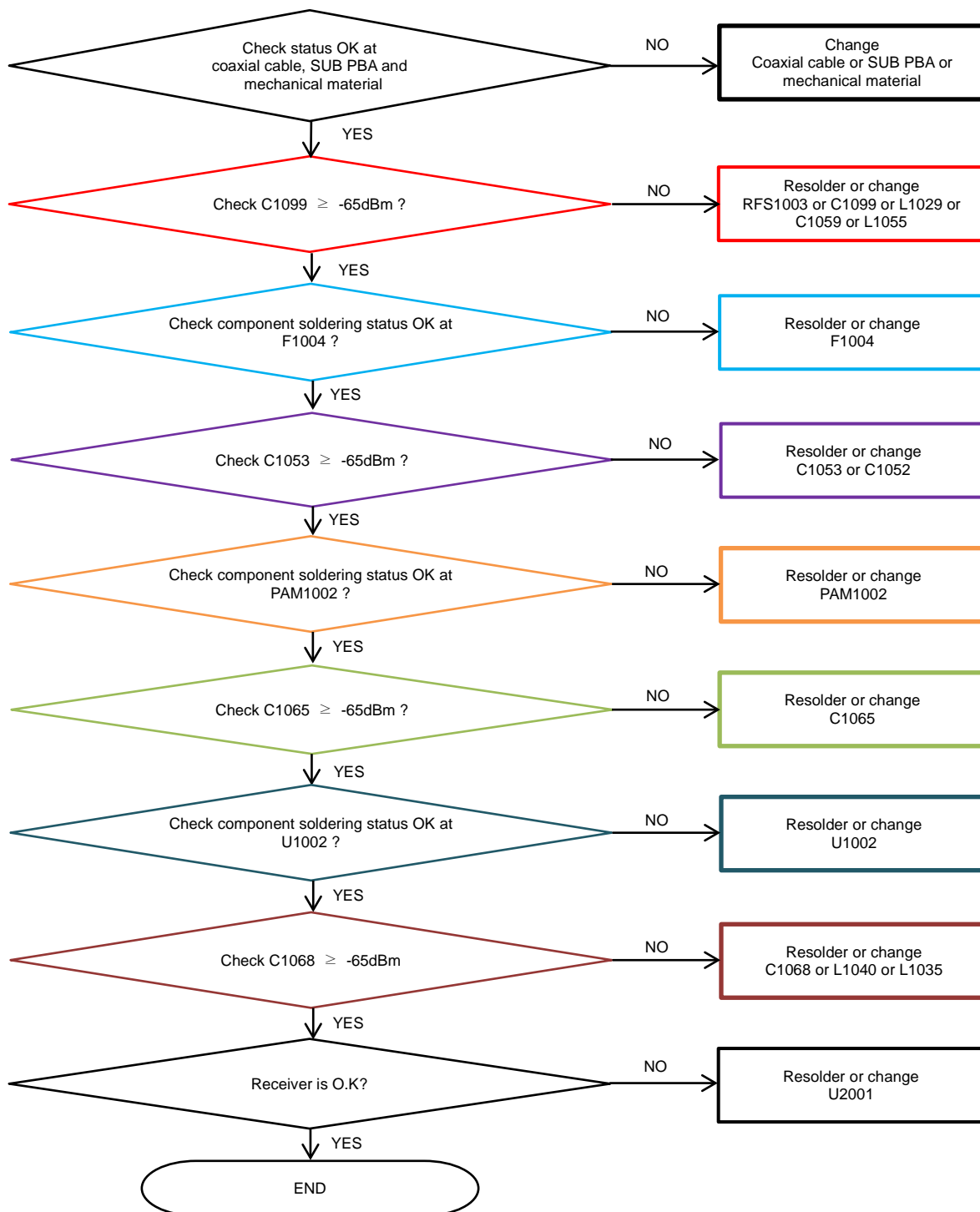
8. Level 3 Repair

8-4-32. LTE B7 4Rx_PRx



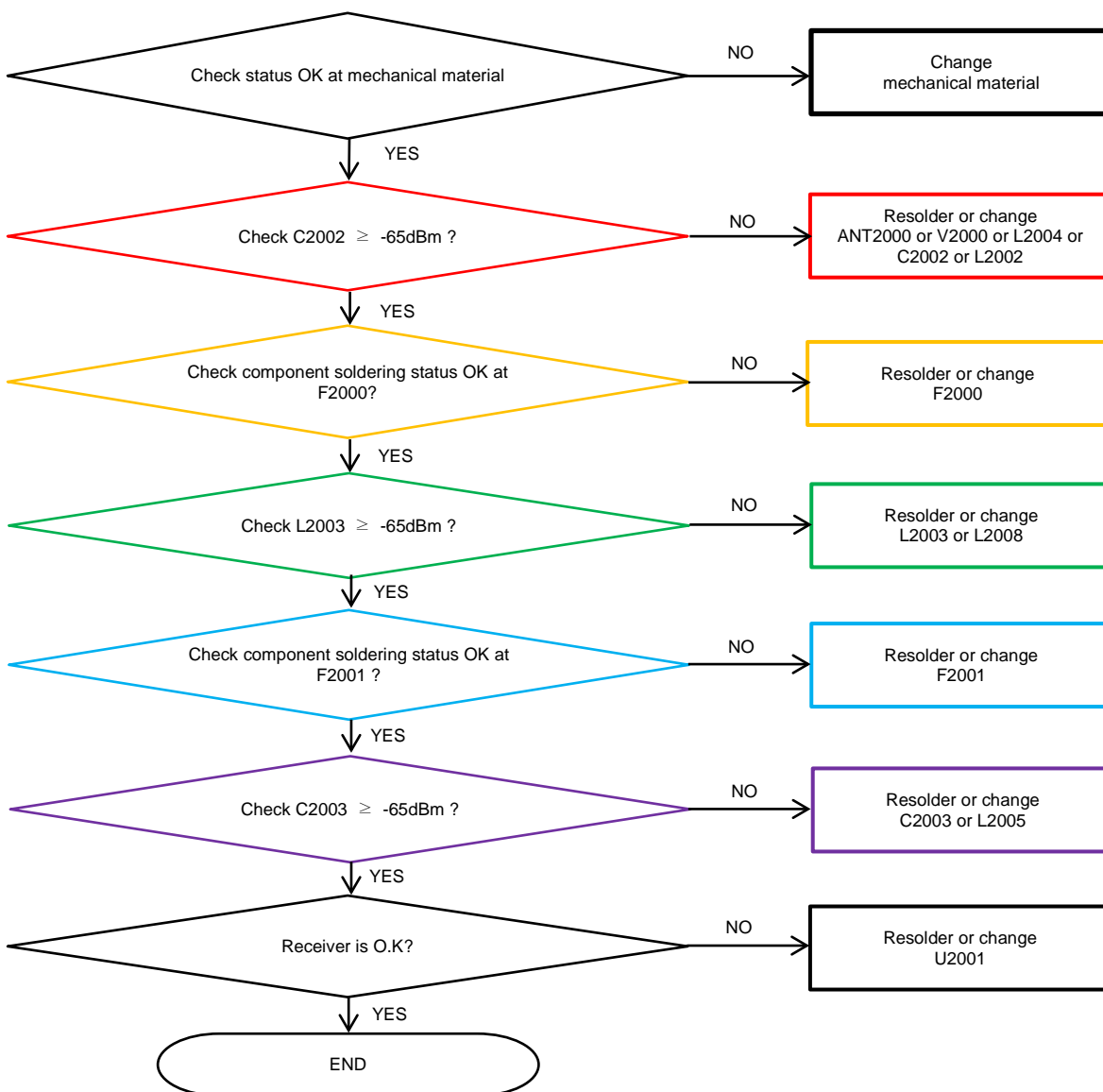
8. Level 3 Repair

8-4-33. LTE 40 4Rx_PRx



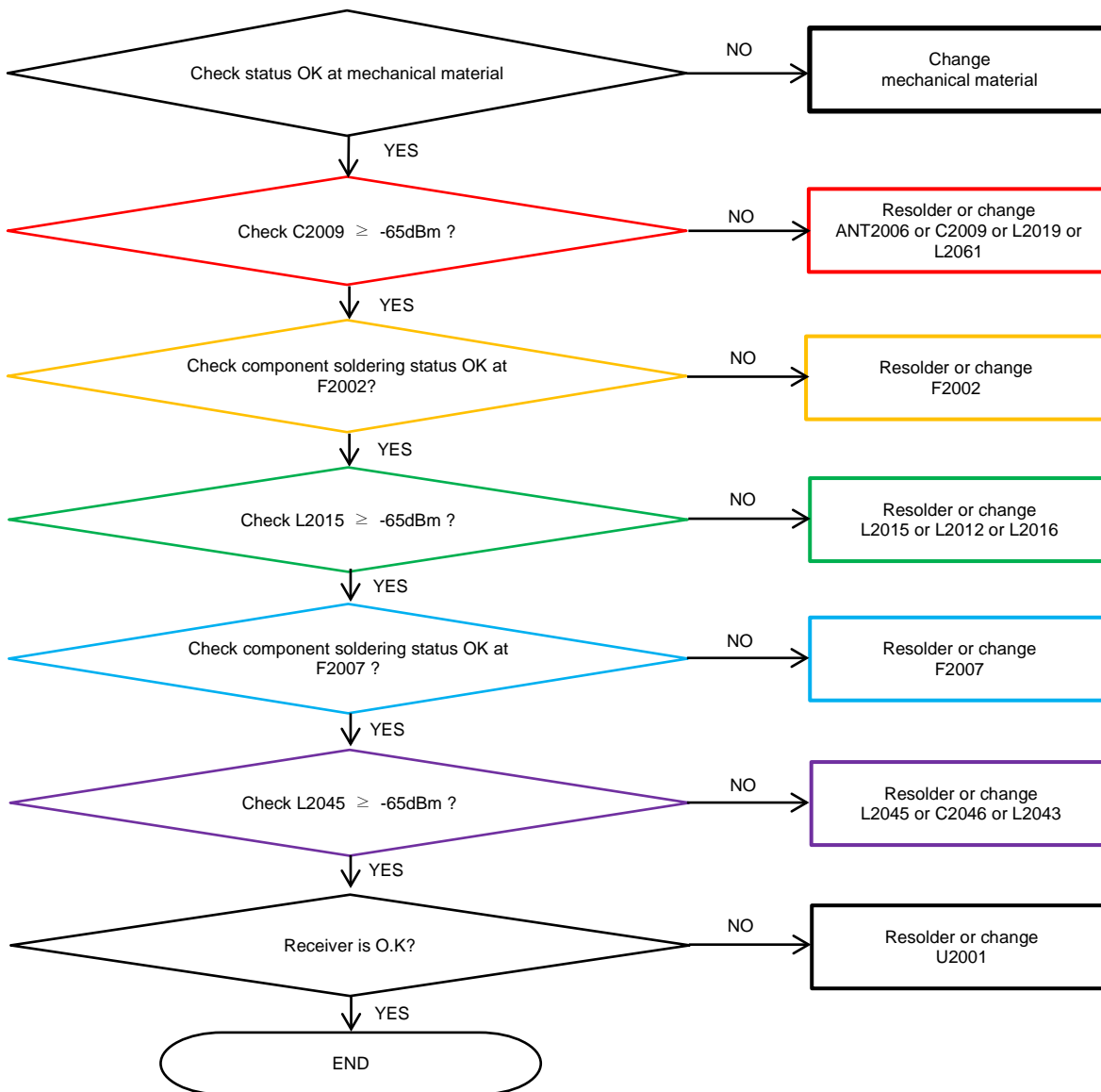
8. Level 3 Repair

8-4-34. GSM850/900, WCDMA B5/8, LTE B5/8/12/13/17/18/19/20/26/28 DRx



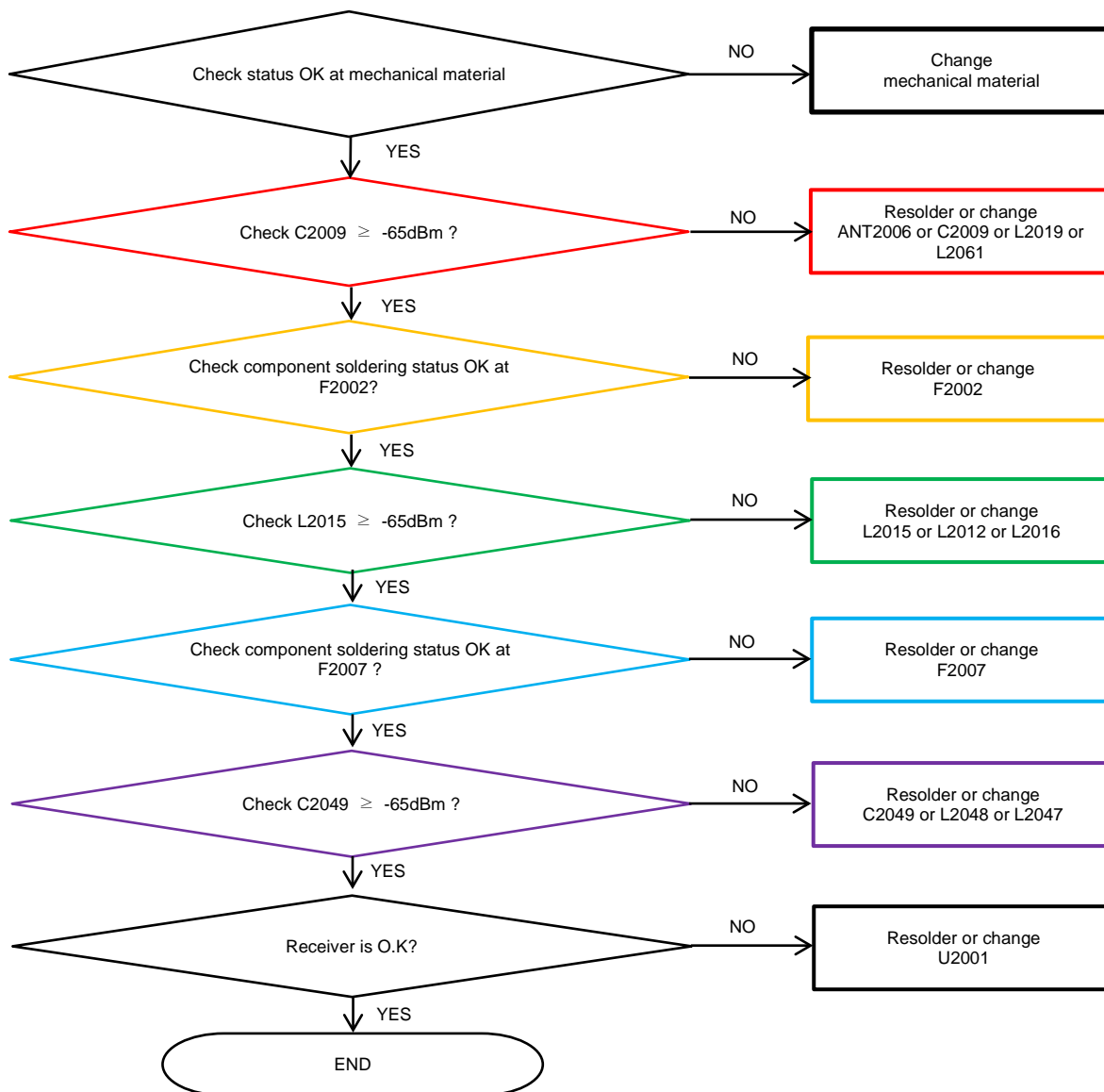
8. Level 3 Repair

8-4-35. DCS1800/PCS1900, WCDMA B2, LTE B2/3/25 DRx



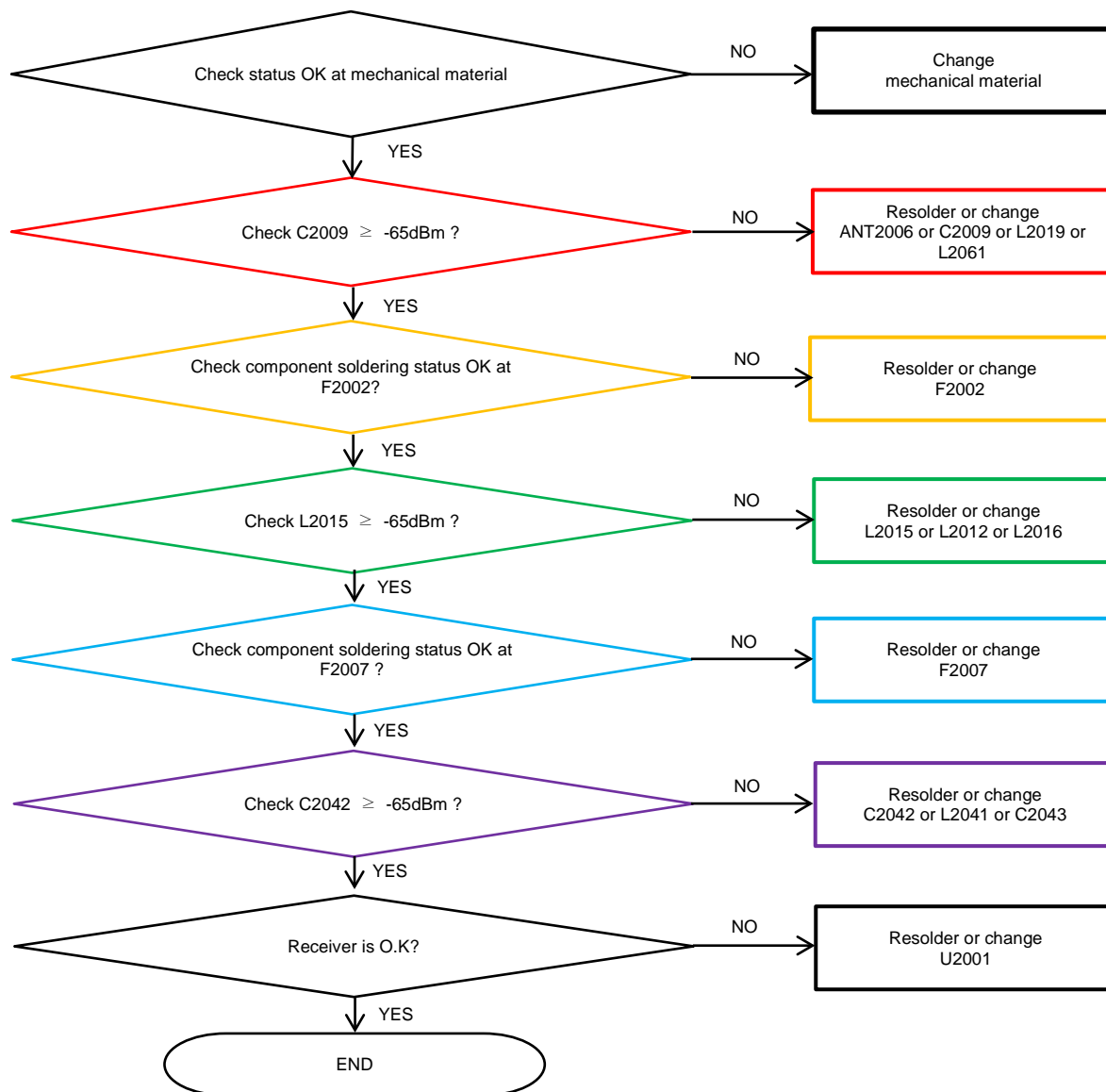
8. Level 3 Repair

8-4-36. WCDMA B1/4, LTE B1/4/32/66 DRx



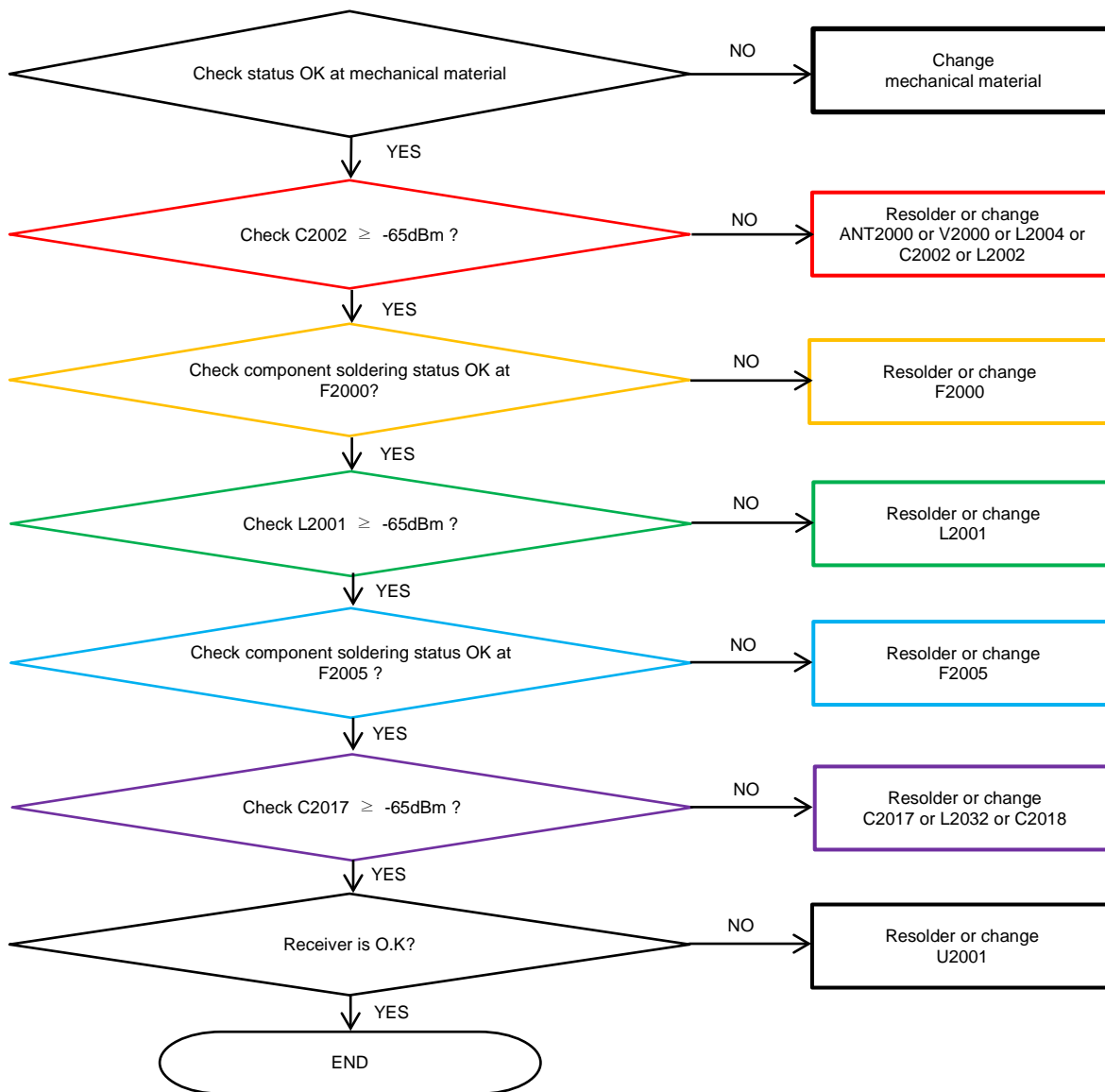
8. Level 3 Repair

8-4-37. TDSCDMA B38/40/41, LTE B7/38/40/41 DRx



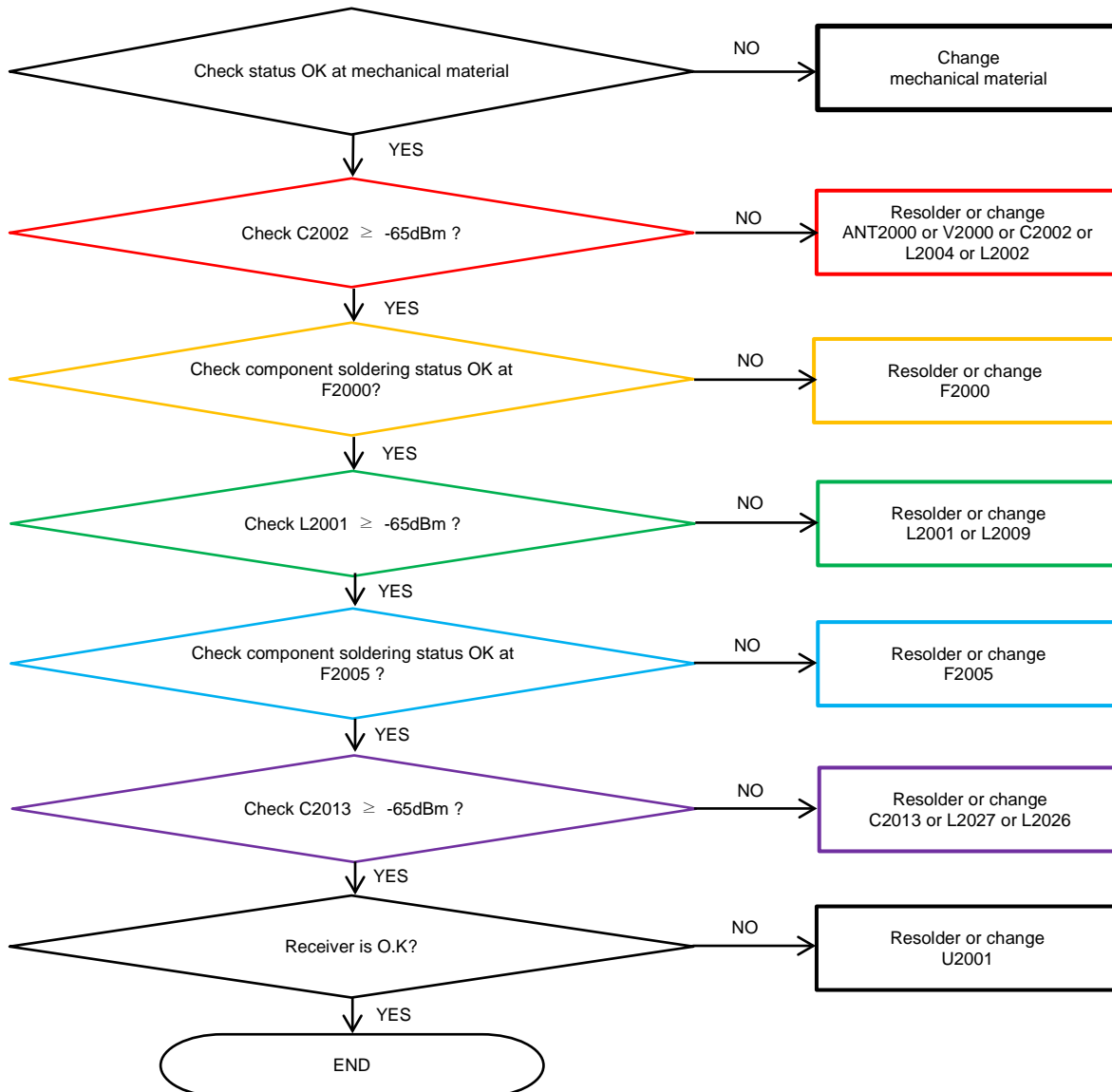
8. Level 3 Repair

8-4-38. LTE B1/4 4Rx_DRx



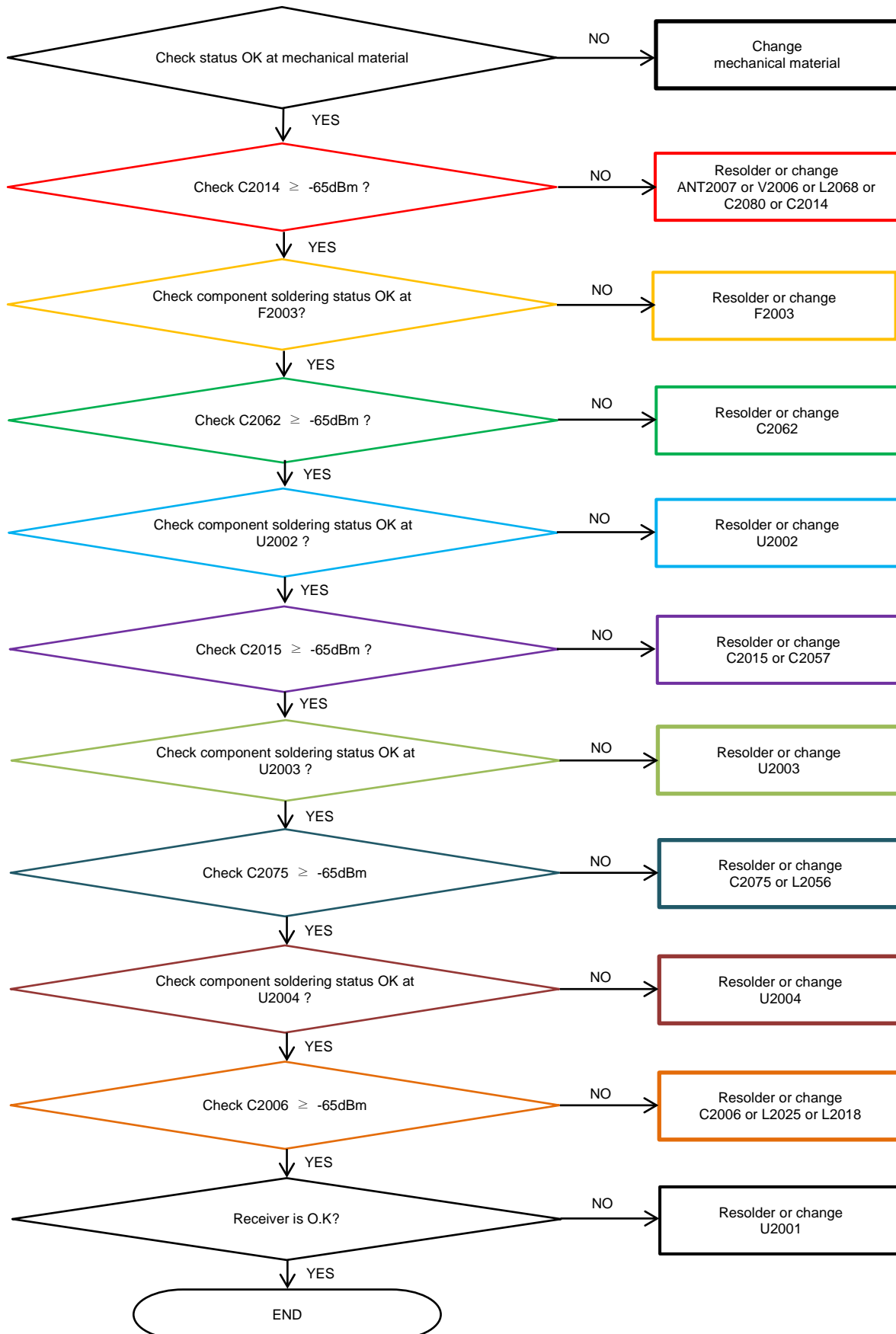
8. Level 3 Repair

8-4-39. LTE B3 4Rx_DRx



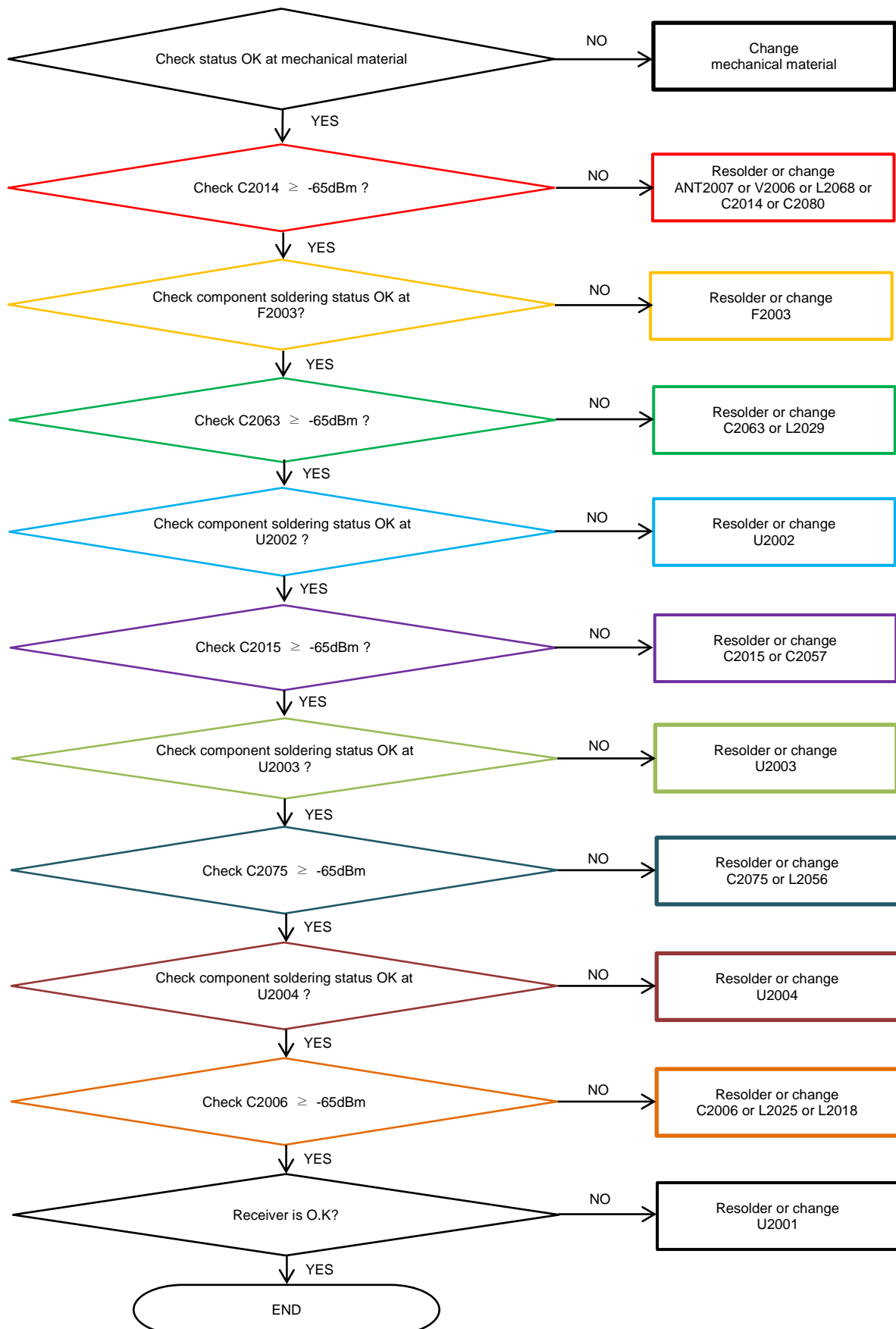
8. Level 3 Repair

8-4-40. LTE B7 4Rx_DRx



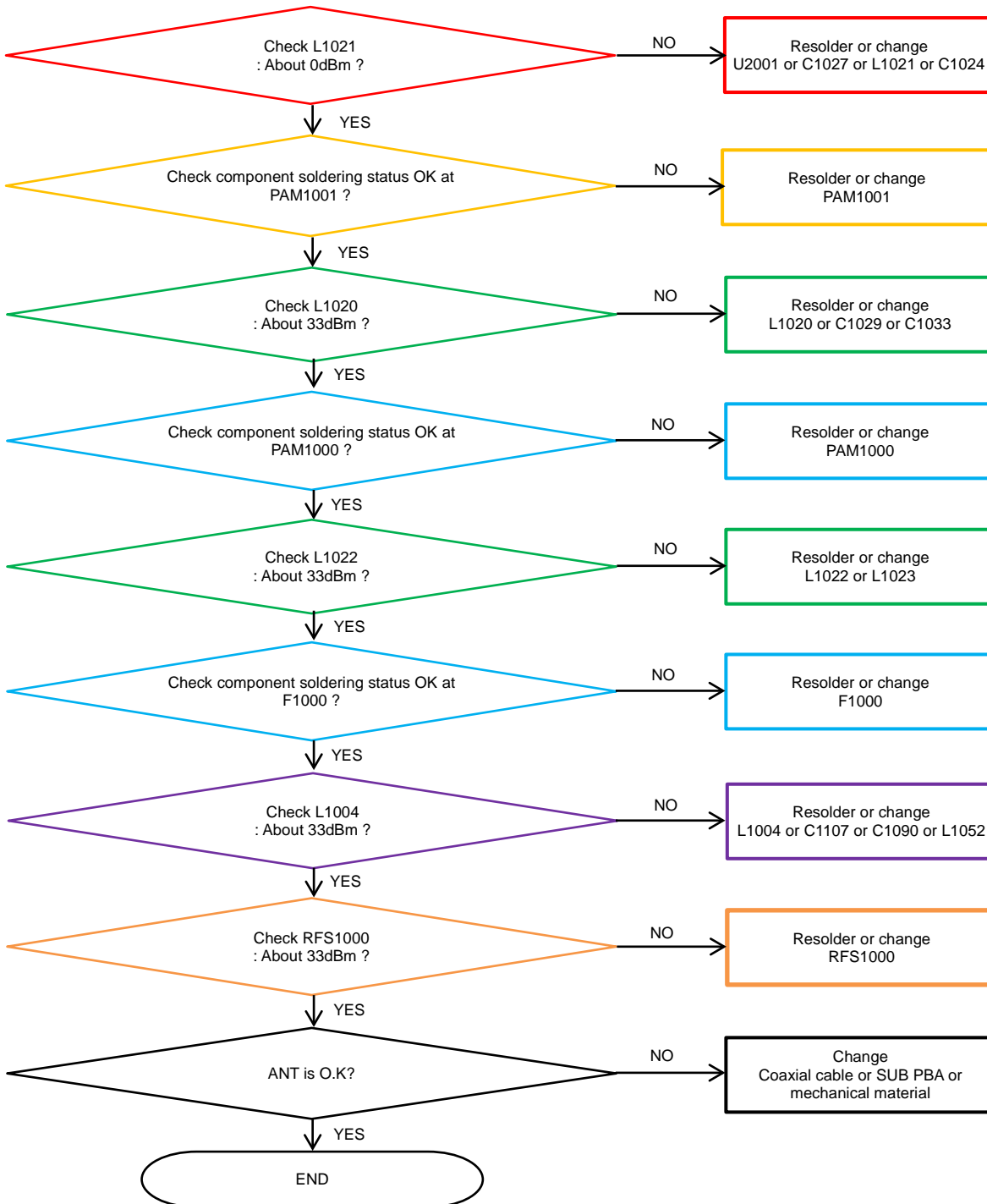
8. Level 3 Repair

8-4-41. LTE B40 4Rx_DRx



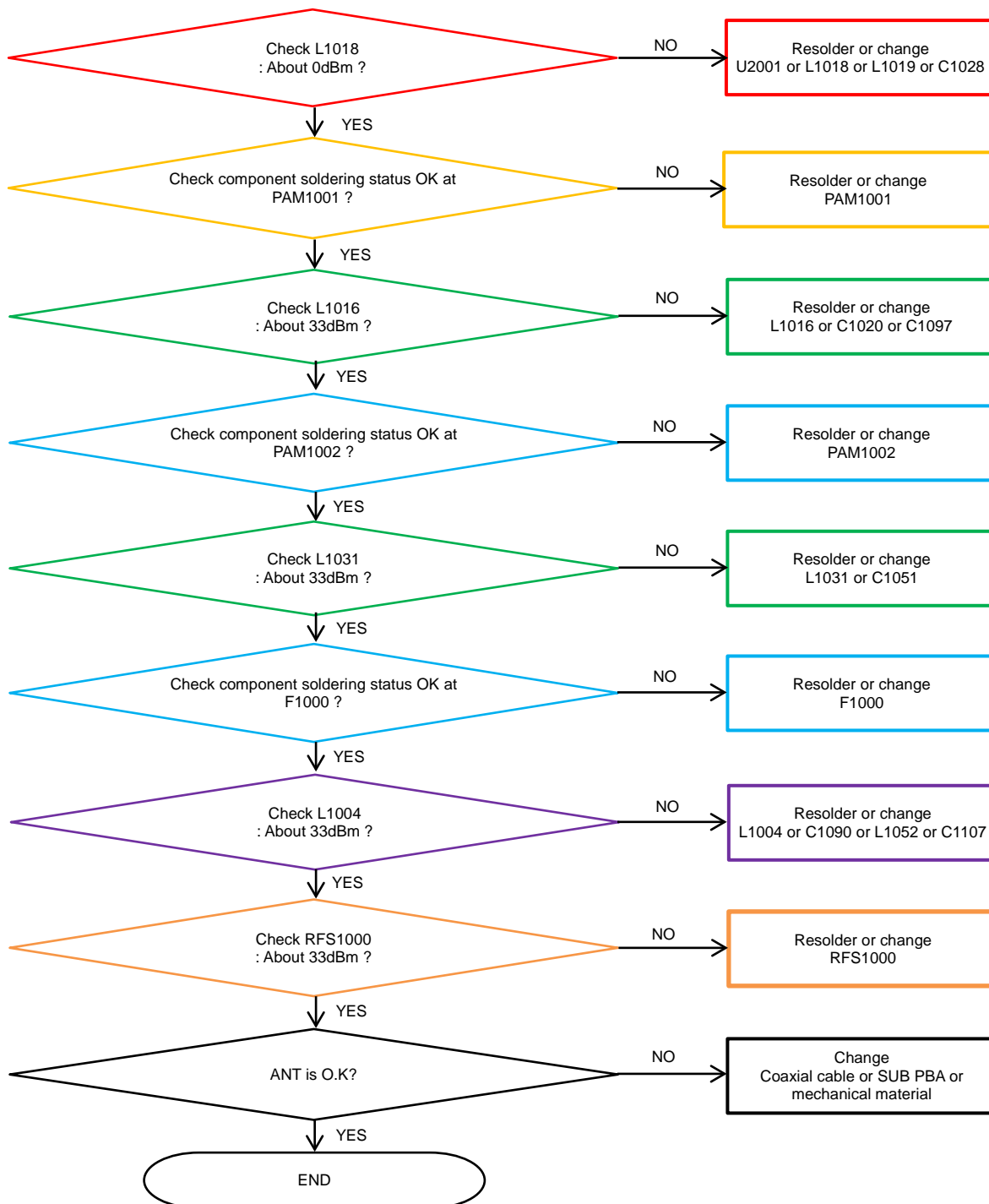
8. Level 3 Repair

8-4-42. GSM 850/900 Tx



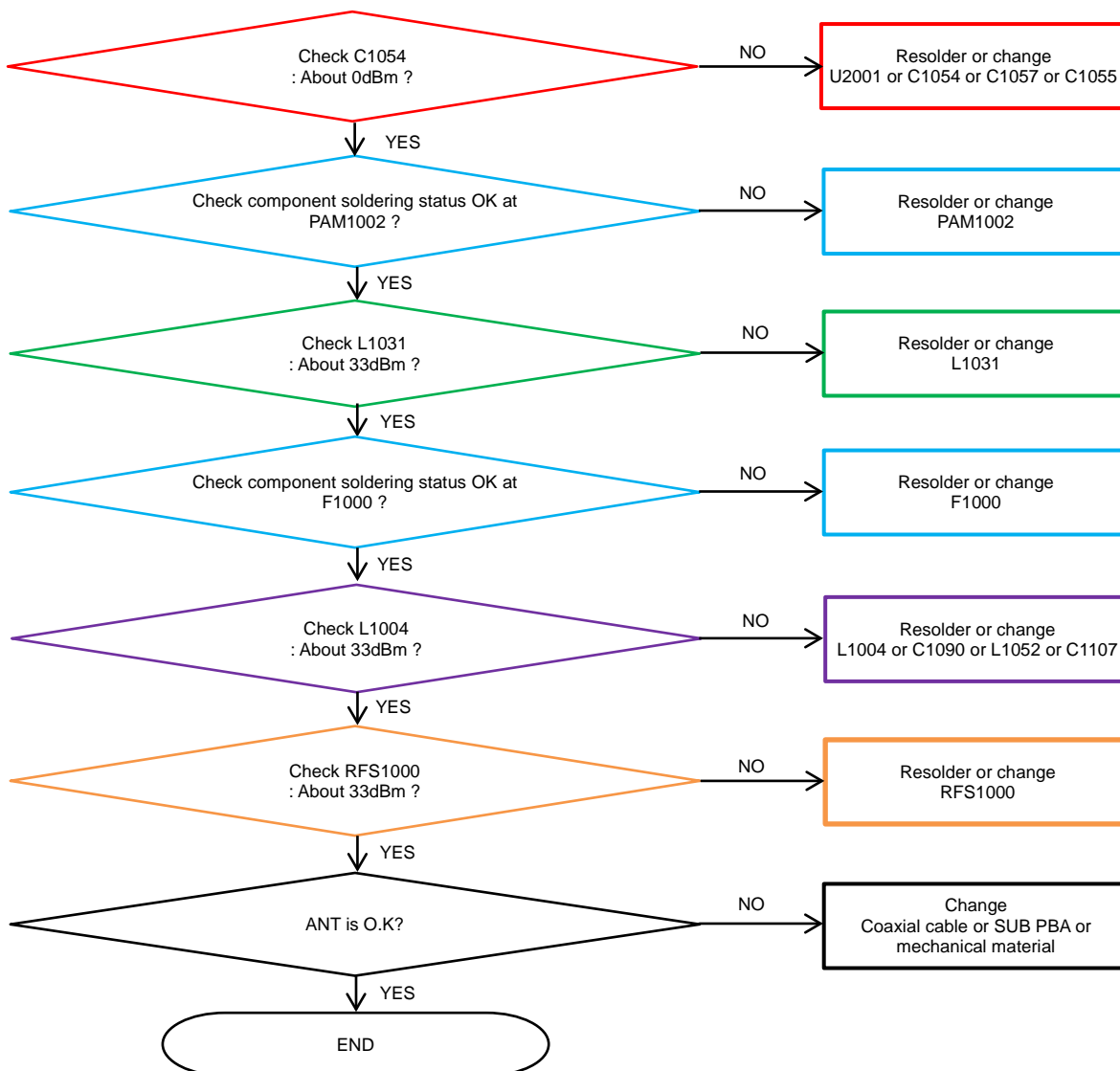
8. Level 3 Repair

8-4-43. DCS1800/PCS1900 Tx



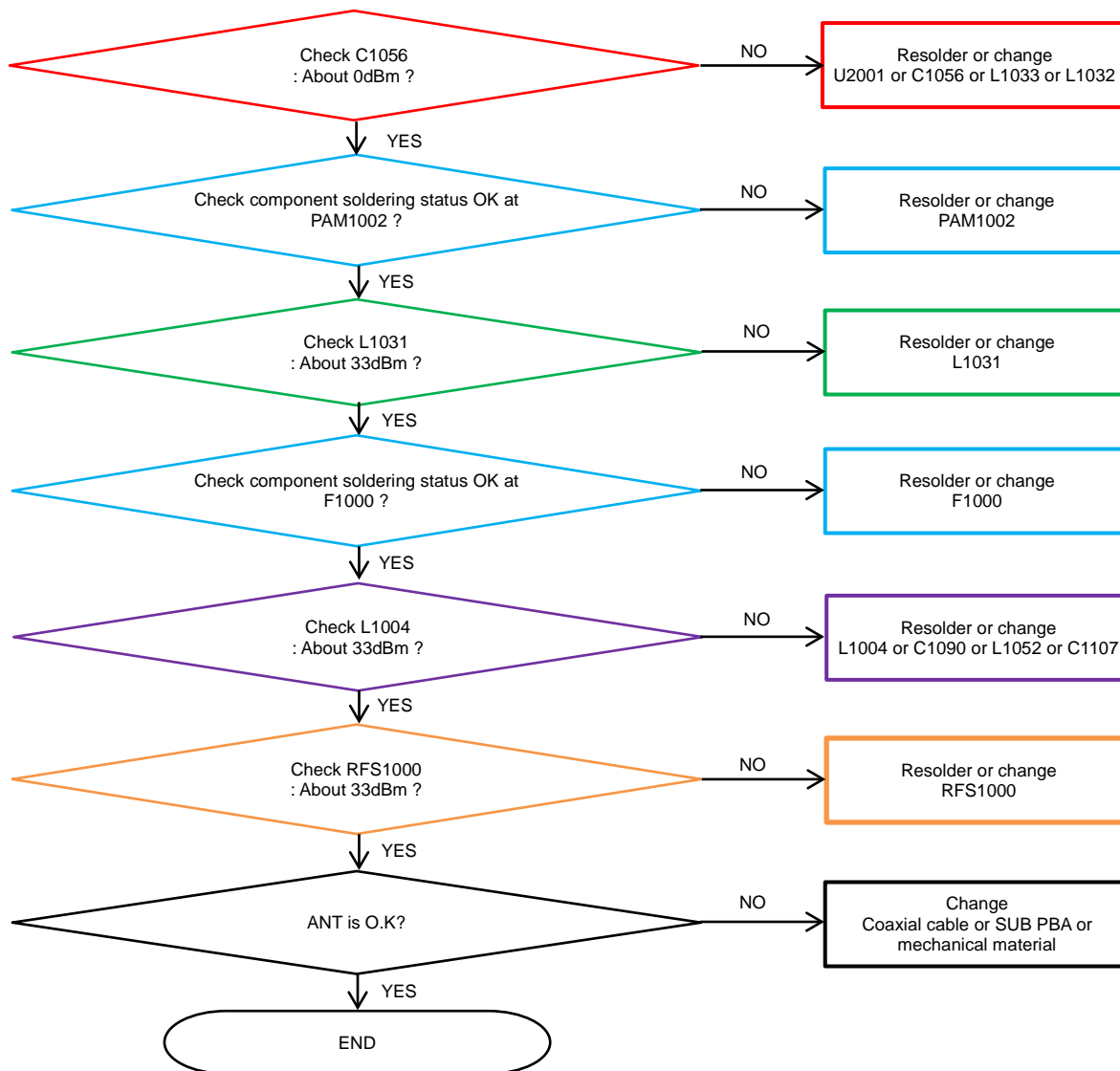
8. Level 3 Repair

8-4-44. WCDMA B1/2/4, TDSCDMA B34/39, LTE B1/2/3/4/25/34/39 Tx



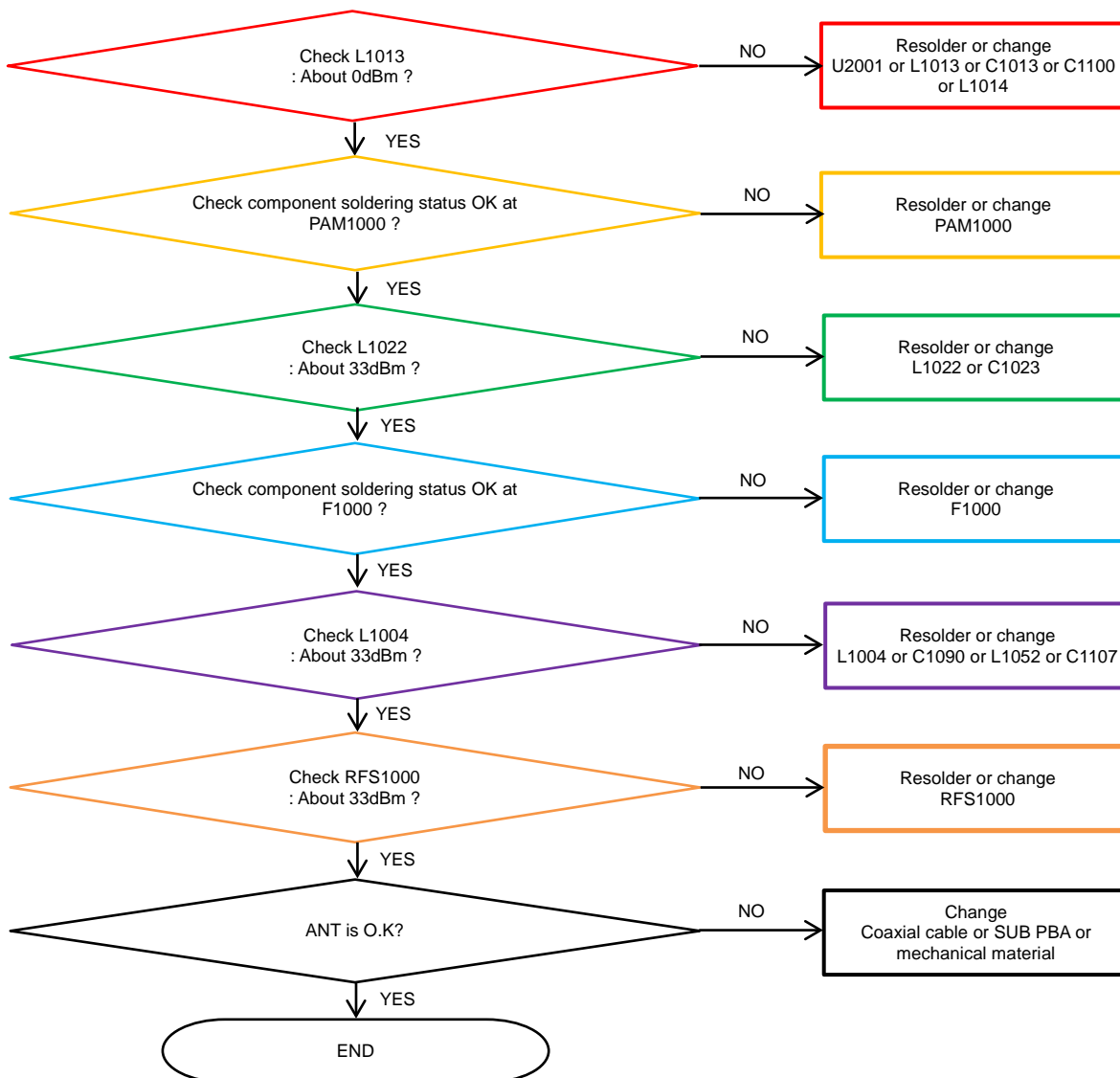
8. Level 3 Repair

8-4-45. TDSCDMA B38/40/41, LTE B7/38/40/41 Tx



8. Level 3 Repair

8-4-46. WCDMA B5/8, LTE B5/8/12/13/17/18/19/20/26/28 Tx



8. Level 3 Repair

8-5. Service Schematics

- AP Top view

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33		
A	VSS	VSS	VSS	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	VSS1M	VSS	VSS2M	VSS	
B	VSS	VSS	VSS	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M
C	VSS	KCP_INT	KCP_INT	KCP_INT	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
D	KCP_INT	KCP_INT	KCP_INT	KCP_INT	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
E	KCP_INT	KCP_INT	KCP_INT	KCP_INT	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
F	VSS	VSS	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
G	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
H	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
J	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
K	VSS	KCP_DAC	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
L	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
M	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
N	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
P	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
R	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
T	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
U	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
V	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
W	VSS	KCP_DAC	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
Y	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AA	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AB	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AC	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AD	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AE	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AF	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AG	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AH	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AJ	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AK	VSS	VSS	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
AL	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AM	KCP_DAC	KCP_DAC	KCP_DAC	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	VSS	KCP_DAC	VSS2M	VSS1M	
AN	VSS	KCP_DAC	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
AP	VSS	VSS	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
AQ	VSS	VSS	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		
AT	VSS	VSS	VSS	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M	VSS	VSS2M	VSS1M		